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SILVER, YESTERDAY AND TO-DAY.

THE CASE AGAINST BIMETALLISM,

TRANSLATED FROM THE FRENCH

OF

PROF. PAUL LEROY-BEAULIEU,

PROFESSOR OF POLITICAL ECONOMY IN THE UNIVERSITY OF PARIS, AND EDITOR OF "L'ÉCONOMISTE FRANÇAIS."

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By Arthur Herbert Chester.

PREFACE.

The following pamphlet is a translation from the third volume of Prof. Leroy Beaulieu's latest work — a "Treatise on Political Economy." It is a complete rendering of the last chapter on Monetary Standard and embraces the whole of the following chapter on International Bimetallism with the exception of half a dozen of the final pages of that chapter which are omitted because they deal with a subject of remote interest — a project for relieving the government of all monetary functions. The notes and references to be found at the bottom of the page in the original are in the translation placed at the end of the pamphlet. Violating the customary rule I have translated the titles of works in foreign languages referred to by the author. This seemed the best way of calling the English readers attention to the character of the authorities cited. Those who wish to make further use of them will, I trust, be able to do so by consulting any good catalogue of authors' names.

It is needless to point out the value of the arguments contained in these pages, or to refer to the conspicuous position of the author among living economists. For a period of nearly thirty years his different works have been appreciated and used by those who value impartial and thorough treatment on economic subjects. They cover a wide field and are the works of a skilled observer who is acquainted with the varied phenomena of modern industrial, financial and political life. His conception of the status of political economy as a science, and the method appropriate to it is best given in his own words: "We have always tried, from the outset, to treat political economy according to the method of natural history, never losing sight of the living object, and making it constantly the subject of study."

To realize the task of writing a natural history of man on the economic side is no easy one. But the author's boundless industry in collecting facts, and consummate skill in marshalling them, prove that he strictly keeps to the role he has assigned himself.

Under present conditions when the monetary question has reached such an acute stage in America it will be profitable to hear the words of the most distinguished living French economist in a work written with no direct intention of influencing public opinion in this country. A belief that the case here presented is fair and complete as well as adapted to those who shun theoretical discussions has lead to the present publication. In the first chapter, by using type of varying sizes, I have attempted to distinguish between parts of present interest and those of more historical or speculative value.

The Translator.

CHAPTER I.

THE MONETARY STANDARD.

Proportional quantities of gold and silver in the production of the precious metals since 1493.

Ratio of value between the two metals.— In antiquity: Persia, Greece and Rome, Middle Ages and Modern times.— Incessant fluctuations in their commercial relation despite the immutability of their monetary relation.— Experience of the United States.

Silver purchases by the American Treasury.

The double standard is actually an alternative standard and countries under this system have never in circulation anything but a depreciated metal.

Gresham's Law; bad money drives out good.— This law only an application, in a limited sphere, of one of the most general laws in Political Economy.

The differences and fluctuations of the commercial ratio of gold and silver in the last two centuries.

Different causes of these fluctuations.

Superiority of gold as money over silver in rich countries.

The simultaneous employment of the two metals with one of them subordinated.— Subsidiary or token money.— Rules on this subject.

Arguments alleged in favor of a double standard system.

The fall of silver since 1873 and its causes.

A metal can only be regarded as a precious metal when it is in great demand for industrial uses.— The commercial and artistic decline of a metal leads to its monetary decline.

PROPORTIONAL QUANTITIES OF GOLD AND SILVER IN THE PRODUCTION OF THE PRECIOUS METALS SINCE 1493.—The end of the XIXth century has witnessed a particularly important phenomenon in the monetary history of the world. The monetary role of silver has been reduced, and it has been subordinated in the principal civilized countries of the world to the position of merely subsidiary currency. This change has not taken place without producing certain complications and has also been subject to great discussion.

An examination of the statistics of gold and silver production, since 1493, proves that since that date there have been six phases or periods in the relative production of the precious metals.[1]

The first period immediately follows the discovery of the islands and continent of America, and continues up to the time when the famous mines of Potosi commenced to be worked. These fifty years may be called the first Golden Age. During this period the production of gold exceeded the production of silver. The value of the gold product was ,151 millions against 773 millions of silver ($230,200,000—$154,600,000).[2]

The second period begins with 1545. It is infinitely longer, for it extends three centuries, and comes to an end in 1840. This may be called the first Silver Age. During this long interval the production of silver was constantly much more considerable than the production of gold. For the whole period there were 30 milliards 787 millions of silver produced against 13 milliards 330 millions of gold ($6,157,400,000—$2,666,000,000). That is to say there was 130 per cent. more silver than gold.

With the opening of the Ural gold mines, gold took the upper hand but only for the short period from 1841 to 1850. In this interval is the third phase; there is a transition from the Silver Age to the Golden Age. In this short period of ten years, the two metals were pretty evenly balanced. Gold, however, slightly predominated. The gold product was 1,886 millions against 1,734 millions of silver ($377,200,000—$346,800,000). For the first time since 1545 the production of the two metals was very nearly equal in value.

In 1851 we enter the great Golden Age with the discovery of the large gold fields in California and Australia. The most striking and characteristic portion of this period lasts till the year 1870. In this—the fourth period—13 milliards 443 millions of gold were sent into the civilized world against only 4,701 millions of silver ($2,686,600,000—$940,200,000.) The production of gold exceeded that of silver by 185 per cent. It may be noticed here that in the great Silver Age (1545–1840), the production of silver exceeded that of gold by only 130 per cent.

The fifth period opens in 1871 and lasts till 1883. This period is marked by a slight decline in the production of gold, which fell to 494 million francs in the year 1883 ($98,800,000.) This is the smallest sum produced in a year during the whole second half of this century. Another characteristic of this period is the great development in the production of silver. This transitional period (1871–1883) can be compared to the period from 1830 to 1850. The production of the two metals does not show the enormous differences which we found during the Silver Age (1545–1840), or during the two Golden Ages (1493–1544 and 1851–1871). The value of the two metals is nearly equal: 7,161 millions of gold against 6,745 millions of silver ($1,492,200,000—$1,349,000), or 112½ per cent. of gold against 100 of silver.

The sixth period begins with the year 1883 and is continuing at the present time (1896). It will probably not be indefinitely prolonged. It may be called the New Silver Age. Although during this period the production of gold has sensibly increased—during the years 1892, 1893 it exceeded notably the annual mean production of the great Golden Age (1851–1871)—yet the production of silver has become simply overwhelming. For this whole period it reaches, in monetary value according to the tariff of the Latin Union 8 milliards 97 millions against 6 milliards 74 millions of gold ($1,609,400,000—$1,214,800,000). In other words, the monetary value of silver produced has been, if calculated for each year of the period, 1 milliard 412 millions ($282,400,000).

This is in colossal excess of anything ever before seen. Even in the celebrated double decade 1851–1870, the united production of the two metals, never passed in its annual average 907 millions and a half of francs ($181,500,000).

THE RATIO OF VALUE BETWEEN THE TWO METALS: IN ANTIQUITY, PERSIA, GREECE AND ROME.—Has the relative value of the two metals been influenced by the numerous vicissitudes in their relative production? This question can be answered from different points of view. 1st, when the two metals have circulated only according to their actual market values, and when no fixed ratio has been established between them by law, the system is either the irregular system of governmental abstention from monetary matters, or it is the system of the single standard. The State chooses only one of the two metals as the instrument of exchange; the other is recognized solely as an article of commerce, and accordingly has a commercial and changeable value. 2nd, when a fixed ratio between the coins of the two metals has been legally determined, when, moreover, this ratio is intended to remain stable until modified by a new law, although in reality it has been established with the idea of perpetuity or at least for a very prolonged period, the system is called the system of the double standard. Popularly, although without exactness, it is called bimetallism.[3]

Under the double standard system two different cases must be distinguished: A. When the double standard is limited to a nation, or a restricted group of nations, or when at least a fixed ratio has been established between coins of the two metals adopted by one single nation or a single group of nations, while at the same time other nations have either a single standard or a different legal ratio between coins of the two metals. B. The system of a universal double standard—when the same fixed ratio between coins of the two metals has been accepted by all nations, or at least has been accepted by all the leading nations, so that the nations remaining outside of this agreement are not important enough to be noticed.

According to Roscher, who relies on Mommsen's statements, the peoples of antiquity, with the exception of Athens and the Roman Empire at the time of Diocletian, do not seem to have been acquainted with the free coinage of either metal. Neither one metal nor the other was used without restriction. A fixed legal ratio seems to have been established between the coins of different metals. The State was generally the exclusive proprietor of mines of precious metals, and coining money was a regalian right in the strictest sense of the word. Individuals could not require the bullion they possessed to be coined into money. Accordingly the situation at that time was very different from the conditions prevailing in modern times.

Nevertheless, even under this system, the fixed ratio seems to have been very changeable. It had to be modified to a very considerable degree from time to time. M. Theodore Reinach has made an extensive study on the money of antiquity, and more especially on the money of the Lydians, the Persians, and the Greeks.[4] This scholar admits that a fixed ratio existed in Persia, the greatest state of remote antiquity, between gold and silver coins. He allows too that Greece, in a certain measure, was more or less dependent financially on the states of the Great King. This fact was due to the close relations of Greece with Asia, a country of great wealth, although till Alexander's time Greece had a single silver standard. The same authority, as the result of his investigations, has reached the following double formula: "I. The ratio between the precious metals among the Greeks did not have the fixed character attributed to it by legend. On the contrary, during the course of their history it varied in marked proportions. II. The cause of these variations can always be assigned to definite economic facts." M. Reinach proves that the ratio between the two metals among the Greeks was successively 10 to 1 (that is ten weights of silver against one of gold) 13⅓ to 1, 14 to 1, 12 to 1, and again under Alexander the Great, to 10 to 1. All of these variations were brought about by the opening of more profitable mines of one metal or the other, or by their decreasing output of metal. Another factor was the placing in circulation of temple treasuries like that of Delphi, or more important still, the breaking up of the immense treasures of the kings of Persia.[5]

It would be very difficult, very uncertain and very presumptuous to attempt to discover in mediæval history the variations of the relative value of the two precious metals. The most learned have hesitated to undertake such a task. Soetbeer in his "Materials in the history of money," goes no further back than 1851 or at the outside 1845. Roscher supplies scattered indication without giving any methodical exposition.

According to this authority some states or some commercial cities in the middle ages, either by laws or regulations, or perhaps rather by the force of custom which was then so powerful, adopted an empirical but tolerably complete system. Large payments were made in gold. For small or moderate transactions from day to day, the double standard was used, that is the choice between one metal and the other. Such was the case at Basle at the end of the Middle Ages. For salaries, purchases of bonds, taxes on capital, business on a large scale gold was generally used. For minor business the double standard came into play, and along with it extremely frequent changes in the relative value of the two metals.[6] There was a fixed ratio between gold and silver coins in the monetary regulations of the German Empire in the XVIth century. The same condition existed in England from the Act of 18 Edward III. (1327–1377) until the Act of 15 Charles II. (1650–1685). During this long period there was this constantly legislative singularity in the regime of the fixed legal ratio between gold and silver, viz., that no one could be forced to receive gold in quantities less than £20 ($100). On the contrary, at a later epoch it was stipulated in England, at a time when its subsidiary coinage was badly worn, that there was no obligation to receive more than 25/ of it ($125). The fluctuations of the relative value of the two metals seem always to have been considerable, no matter what fixed and immutable bond was supposed to have been established between them. From 1262 to 1292, according to Roscher, the price of gold relatively to silver which was 9 3-5 to 1 rose rapidly to 11½. This was before the discovery of America.[7]

Relation of Value between the Two Metals in Modern Times. Incessant Fluctuations in Their Commercial Relation Despite the Immutability of Thrir Monetary Relation. Experience of the United States. — In the XVIIIth century the ratio varied in general from 1 to 15, 16 or 17. The gold mines of Brazil, without being anything like so important as those that were discovered about 1850 in California and Australia, furnished a very considerable proportion of the metal. The production of gold in the XVIIIth century reached 6 milliards 544 million francs ($1,308,800,000), more than double the production of the XVIIth century, while the production of silver from the XVIIth to the XVIIIth century increased only half. The result was that the production of silver in the XVIIIth century was a trifle less than double the production of gold, 12 milliards 674 million francs against 6 milliards 544 millions ($2,534,860,000 — $1,308,800,000), while in the XVIIth century it was nearly triple, 8 milliards 74 million francs of silver against 3 milliards 142 millions of gold ($1,654,800,000 — $628,400,000), and while too in the second half of the XVIIth century, the production of silver had been more than triple that of gold. Accordingly, in the XVIIth century, gold relatively to silver lost in value. Silver in the bullion market had more value relatively to gold than was assigned to it by the British monetary regulations, and accordingly disappeared from circulation. From 1718 to 1720 there were complaints in England of the great scarcity of silver.[8] In the middle of the XVIIIth century, and at the moment of the greatest production of the Brazilian gold mines, Prussia established the 16 to 1 ratio between gold and silver. As silver then became estimated by the mint below the value which was represented by the relation between gold and silver bullion, all the silver money, Roscher says, with the exception of what was badly worn left the country. At the end of the XVIIIth century in England, towards the expiration of the "quasi" or gold period, which appeared at that time, principally from 1720 to 1760, the only silver money in circulation were the old shillings of George I which had been brought by defacement down to the value corresponding to that assigned to them by the monetary laws. An ordinance of Electoral Hesse of the 4 March, 1763, proclaims the impossibility of fixing for all time the price of gold relatively to that of silver.[9]

In France the law of 1803 established the double standard with the fixed ratio of 1 to 15½, under the pressure of the first rise in silver. But the production of gold, at the outset, beginning with this period sensibly diminished. The percentage of quantities

produced of gold and silver, in the total production of the precious metals was 4.2, 4.4, 3 1 for gold, and 95.8, 95.6, 96.9 for silver in the double decades 1721–1740, 1741–1760, 1761–1780. In the double decades, 1781–1800, 1801–1820, 1821–1840, it was for gold 2.0, 1.9, 2.1, 3.0, 3 3 and 98 0, 98.1, 97.9, 97, 96.7 for silver. The proportion of the gold to the silver product was accordingly much less in the period of 1721 to 1840 than in the period 1721 to 1780. The result was that the monetary ratio established by the French law of 1803 was too favorable to silver. This metal was given a value relatively too great. Accordingly gold went out of circulation or was at a slight premium, while silver remained practically almost the sole money in circulation.

The same phenomenon appears in a still more striking fashion in the United States. The recent monetary history of that country is divided into four periods: 1, 1792 to 1834 transition of gold to silver; 2, 1834 to 1853 transition of silver to gold; 3, 1853 to 1878 when, with the exception of the system of paper money during and after the war of Rebellion, there was a single gold currency; 4, finally the period from 1878 to 1893 when gold gave way to silver; perhaps at the present time (1894), after the measures taken at President Cleveland's suggestion, a new period is about to begin. The study of these changes is interesting. From 1792 to 1834 the double standard used in the country was on the 15 to 1 basis, that is one weight of gold against 15 of silver. This legal ratio put gold on a worse footing than it was in France, where the ratio was 1 to 15½. Accordingly, all gold disappeared from the United States. In 1820 great complaints were heard on account of the disappearance of gold. Some people then, as some people always will do, explained the phenomenon by contingent causes. They ascribed it to the resumption of specie payments in England.[10] But as an American writer says, chronology upsets this explanation. In fact, from 1811, that is to say at the very height of the paper money system in England, the disappearance of gold from circulation was noticed in the United States. However, by adopting the ratio 1 to 15 in 1792 the commercial relation of the two metals was strictly copied. But after that date the respective situation in the production of the two metals altered. Practically, the relation of the value of gold and silver bullion had become 1 to 15.7 in 1820, instead of 1 to 15 in the United States and 1 to 15½ in France.[11] Gold was undervalued in the coinage of both these countries. It was not natural for it to remain either under the form of coin or to stop in these countries themselves.

The Americans seeing that their gold was going, and desiring to keep in circulation a certain quantity of a metal that offers numerous advantages, decided in 1834 to modify their monetary system. They went about it, however in a way that must be absolutely condemned — a way that reveals one of the greatest dangers of a double standard,

namely, the tendency towards the progressive depreciation of currency. When they modified the relation between gold and silver they had a choice of two solutions: Either to increase the quantity of silver in the silver dollar so that it might be equivalent to the unaltered gold dollar; or to lower the quantity of gold in the gold dollar, so that it might be equivalent to the unaltered silver dollar. By either method the parity between the two dollars would have been re-established. The first method would not have degraded their monetary standard. The second, on the contrary, did degrade it. They definitely made in regard to all of their currency, the final step in its depreciation that had been brought about in the first instance by the low price of silver. Very much the same question was before England in 1696, when their coinage was recast. At that time the greater part of the money in circulation was composed of badly worn and depreciated coins. Many members of Parliament, under the leadership of Lowndes, wished the standard lowered to the level of the depreciated currency. Two great minds opposed this step. Newton and Locke appeared as the triumphant defenders of the "ancient right standard." And an American writer who relates this struggle, in which good sense and good law won the day, justly calls it "one of the greatest victories for good money in modern history."[12]

The country of this judicious economist in 1834 presented an example in just the contrary direction. Good money was defeated. With no care for its effects on contracts and with no regard for the integrity of their monetary system, the Americans took from their gold dollar 6.889 per cent. of the precious metal that it contained. The dollar was left with no more than 23.22 grains of pure gold. The silver dollar on the contrary, whose depreciation had caused the monetary disorder, was unaltered. The mint ratio between gold and silver was 1 to 15.988 or as it is commonly put 1 to 16. This ratio, unlike the ratio made in 1792 did not correspond strictly to the commercial ratio of the two metals, that is, to the comparative value of the two metals in bullion. The last was at that time (1834), 1 to 15.73. In fixing the mint ratio at the rate of 1 to 15.988, the Americans who had witnessed the preceding fall of silver supposed that it would continue, and provided for a further fall of the metal.

These expectations were completely upset — a striking proof of the difficulties of a double standard system. A weight of gold under the form of coin was exchanged for more grains of silver also under the form of coin than could be obtained for it, if either metal had been in bullion. Silver now was undervalued by the mint. The difference between the ratio of the two metals as coin (1 to 15.988) and the ratio of

the two metals as bullion (1 to 15.73) slightly exceeded 1½ per cent. This small difference was enough to cause much gold to be brought to the mint for coinage, and then to be exchanged for the quantity of silver pieces legally equivalent to it. These silver pieces were then melted down into bullion. This melting process was practicable and lucrative for all the heavy silver coins—that is, when their weight was not perceptibly diminished. The growth in the production of gold as a result of the working of the Ural mines, since it slightly depreciated gold, increased still more the difference between the mint ratio and the commercial ratio of the two metals. The result was that the operation just described became more profitable. In 1840 a silver dollar was worth 102 cents in gold. The premium on silver was accordingly 2 per cent. The United States then gradually returned to an exclusive gold circulation. This transformation was accelerated by the opening up, after 1850, of the Australian and Californian gold mines.

The American Congress was led to recognize the impossibility of keeping the two metals in circulation, on a basis of strict equality. — that is to say while each equally possessed as a medium of exchange the same privileges. An Act of 1853 made the gold standard an accomplished fact; but it also took care, for the sake of convenience to business, to establish a subsidiary currency of silver. The small silver coins — "halves," "quarters" and "dimes" — had previously been coined with the same proportion of silver as the silver dollar itself. That is, "two halves," "four quarters" and "ten dimes" contained 371¼ grains of silver just as well as the silver dollar. The result had been that, during the period from 1834 to 1853, while there was an advantage in withdrawing silver dollars from circulation and in melting them, there was theoretically the same inducement to withdraw and melt this fractional silver money (we use the term "theoretically" because practically the inducement was not quite so great by reason of the more pronounced loss from wear on the small coins.) In fact "all the subsidiary silver had gone out of circulation, and there was no small change in the country."[13] This is hardly astonishing, when we reflect that, in 1853, the silver dollar was worth 104 cents in gold. The 4 per cent. premium had even made profitable the melting of small silver coins, that were only slightly worn.

Congress very wisely conformed to rules recognized and formulated by economists, and reduced to 345.6 grains (instead of 371¼), the quantity of silver contained by a dollar's worth of the fractional currency. This 7 per cent. reduction in the proportion of silver they contained caused a weight of silver in this money to be worth 2½ to 3 per cent. more

than a like weight of bullion at that time. It was very likely then that the country would keep its fractional currency. In order to prevent immense quantities of silver being brought to the mint, attracted by this increased value, the government limited the coinage of this fractional money. Finally, to prevent its monetary system from depreciating it restricted payments in fractional currency to the sum of five dollars. This proportion was very small, and it reduced the role of silver money to a very slight point. This system which began 1853, was in fact a single gold standard with a subsidiary silver money of low value for minor payments. "It continued without question and with the greatest convenience" until the time of the War of Rebellion.[14] The issue then of a great quantity of paper money, more depreciated than either gold or silver, banished both metals from circulation (1862–1879).

While the United States was still under this system of paper money they were preparing to abandon it by adopting in 1873 by law, what they had already had in practice, the single gold standard. The government, in this year, removed the silver dollar from the list of legal coins. It had actually ceased to circulate long before 1853.

About 1876 silver metal began to fall in value considerably. The causes and proportions of this decline will be spoken of further on. At that date a movement began in the United States in favor of the coinage of the old silver dollar[15] that contained 371¼ grains of precious metal. This movement was confined to certain classes of the population, especially to the owners and workmen in the silver mines, and to the farmers of the Western States who were burdened with debt. The first class had an interest in extending their business. The second class — the indebted farmers — saw the possibility of more easily wiping out their debts or of paying the interest on it at less expense. The price of their products had a tendency to rise on account of the abundance of money in a depreciated metal, while the interest and capital of their debts could be paid with the same nominal quality of a low value coin

Silver Purchases by the American Treasury. — Congress, ever open to the influence of election agitation, was affected by these demands. In February, 1878, it authorized under the name of recoinage, the issue of silver dollars, allowing for this metal with gold, the ratio of 1 to 15.98. At that time the ratio on the bullion market between the two metals was 1 to 17.87. This law, known as the Bland Act, did not, however, reestablish the free coinage of silver. It ordered the government to buy and coin into money at least 2 million dollars worth of silver a month. In practice, the minimum figure was held to, and as the American public

did not gladly receive an awkward, cumbersome silver coin, the whole quantity of metal was locked up in the vaults of the Treasury. Silver certificates circulating as money were issued in place of the actual metal. The limitation on the quantity of this money and on its paper representative prevented the circulation of the United States from being immediately profoundly affected. The coalition of silver mine owners and farmers did not stop here. They gained a further victory. On the 14th July, 1890, a law called the Sherman law, raised the obligatory government silver purchases to 4,500,000 ounces a month — that is, it more than doubled it. (Previously the average quantity purchased monthly had been 2 million ounces.) Accordingly the government silver purchases now rose to 54 million dollars a year.

Under the regulations of these laws, from April 1st, 1878, to December 31st, 1892, the American Treasury bought 458,109,529 ounces of fine silver at a price of 477,575,403 dollars, at an average of 1.0425 dollars an ounce. This average conceals great fluctuations of price. From 1878 to 1889 the price of an ounce of silver declined almost continuously, although some almost imperceptible recoveries took place in 1880, in 1882, in 1886 and in 1888. On the contrary, after the Sherman Law carried the monthly purchases to 4,500,000 ounces, there was a considerable recovery — about 13½ per cent. It did not last, however, and during the two following years silver declined more than ever.

The report of the Director of the United States Mint in 1893 gives the necessary information for comprehending the situation as a whole.[16]

Even before the Bland Act of 1878 the American Treasury had made some silver purchases, but in a very timid way. For instance, it acquired 5,434,282 ounces of fine silver equivalent to $7,152,564 at an average of $1 314 an ounce in virtue of an Act of February 12, 1873, then afterwards the much more considerable sum of 31,603,906 ounces costing $37,571,148, at an average cost of $1.189 an ounce, in virtue of an Act of January 15, 1875. The greatest part of these purchases had been made in 1876 and 1877, under the influence of the Silver Party. It was, however, only altogether 37,038 ounces at a price of $44,723,712, at an average cost of 1.207 an ounce. From February 28, 1878, the purchases became much more important as the result of the Bland Act, as the following table shows.

QUANTITIES, TOTAL AND AVERAGE COST OF THE SILVER BOUGHT BY THE AMERICAN TREASURY IN VIRTUE OF THE ACT OF FEBRUARY 28, 1878.[17]

Fiscal Years ending June 30.	Ounces of Fine Silver.	Total Cost in Dollars.	Average Cost per Ounce in Dollars.
1878	10,809,350.58	13,023,268.96	1.2048
1879	19,248,086.09	21,593,642.99	1.1218
1880	22,057,862.64	25,235,081 53	1.1440
1881	19,799,227.11	22,327,874.75	1.1328
1882	21,190,200.87	24,054,480.47	1.1351
1883	22,889 241.24	25,577,327.58	1.1174
1884	21,922,951.52	24,378,383.91	1.1120
1885	21,791,171.61	23,747,460.25	1.0897
1886	22,690,652.94	23,448,960.01	1.0334
1887	26,490,008.04	25,988,620.46	0.9810
1888	25,386,125.32	24,237,553.20	0.9547
1889	26,468,861.03	24,717,853.81	0.9338
1890	27,820,900.05	26,899,326.33	0.9668
1891	2,797,379.52	3,049,426.46	1.0901
Totals and averages	291,272,018.56	308,279,260.71	1.0583

Under the Bland Act the Treasury had in fourteen years devoted $308,279,260 to the purchase of silver bullion.

QUANTITIES OF SILVER BOUGHT, SUMS DEVOTED TO SILVER PURCHASES AND AVERAGE PRICE AN OUNCE UNDER THE REGULATIONS OF THE SHERMAN LAW OF JULY 14, 1890, UP TO ITS ABOLITION NOVEMBER 1, 1893.[18]

Fiscal Years ending June 30.	Ounces of Fine Silver.	Total Cost in Dollars.	Average Cost per Ounce in Dollars.
1891	48,393,113.05	50,577,498.44	1.0451
1892	54,355,748.10	31,106,607.96	0.9402
1893	54,008,162.60	45,531,374.53	0.8430
1894 (From January 1st to November 1st, 1893)	11,917,658.78	8,715,521.32	0.7313
Totals and averages	168,674,682.53	155,931,002.25	0.9244
Totals and average cost under both Acts, that is, from 28 February, 1878, to 1st November, 1893	459,946,701.09	464,210,262.96	1.0093

Accordingly, in these fifteen years and eight months, the American Treasury bought 459,946,701 ounces of silver, of which the total cost was $464,210,262, at an average price of $1.0093 an ounce These 459,946,701 ounces so acquired represent more than two-thirds of the production of the American silver mines. According to Mr. Leech, Director of the mint, the total silver production of the country, from 1878 to the end of 1892 reached 627,040,000 ounces.[19] By adding to this, about 48,000,000 ounces for the first ten months of 1893 until the Sherman Law was abolished, it reaches a total of 675,000,000 ounces, of which amount the Treasury bought and kept 459,946,000. While the Sherman Law was in operation the government's silver purchases almost equalled the silver production of the country. In the calendar year 1891, Treasury purchases absorbed 54,393,913 ounces of silver, and in 1892, 54,129,728 ounces, while the total production of silver in the country for these two years was 58,330,000 and 58,000,000 ounces respectively.

The relation between Treasury purchases and the production of silver throughout the world is as follows: According to the Director of the mint[20] from 1878 to 1892 inclusive, the entire world produced 1,503,650,600 ounces of silver. Add to this for the first ten months of 1893 (the Sherman Law was abolished November 1st of that year), a quantity equivalent to ten-twelfths of the year's production for 1893—say 126,719,000 ounces, and we shall have for the total production of silver in the world from January 1st, 1878 (for exactness it should be from March 1st, for on that date the Bland Act commenced to operate), a quantity of 1,630,369,100 ounces. We have seen that the Treasury, under the Bland Act and the Sherman Law, bought during this period 459,946,000 ounces; that is, of the entire silver production of the world from January, 1878 to November, 1893, the American Treasury acquired 28 per cent.

Notwithstanding these immense purchases the price of silver fell. At the passage of the Sherman Law it rose, but only for a time, and in considerably at that. The silver was only a burden to the Treasury vaults. On the first of November, 1893, the government had coined 419,332,550 silver dollars. Of this amount 58,725,818 were in actual circulation; 325,717,232 were represented by silver certificates, that is, by paper money based on this security. Finally, 34,889,500 remained in the vaults of the Treasury unrepresented by certificates.[21]

The withdrawal of gold from America during this period was considerable. A monetary crisis, accompanied by a financial crisis, soon followed. Failures multiplied in enormous proportions and Mr. Cleveland had to propose the repeal of the Sherman Act, and with it all obligatory silver purchases by the Treasury came to an end.

THE DOUBLE STANDARD IS REALLY AN ALTERNATIVE STANDARD, AND UNDER THIS SYSTEM COUNTRIES NEVER HAVE IN CIRCULATION ANYTHING BUT THE MORE DEPRECIATED METAL.—The preceding detailed and extended analysis embraces facts relative to antiquity, to Greece and Persia, as well as to the Middle Ages and also to modern times. It has given especial attention to the curiously decisive monetary history of the United States. This analysis clearly proves that the two metals cannot be kept in circulation by any law establishing and attempting to maintain in any one country a fixed ratio of value between them.[22] It invariably happens that the currency, which is favored by the mint, but which is depreciated in the bullion market is left in circulation. That is the circulating medium is composed of that metal, which has in relation to the other metal more value as money than it has as bullion. The other metal, to which the mint gives less value than commerce does, leaves the country, is melted, and retakes the form of bullion, or what comes to the same thing is hoarded by prudent and far-sighted people, who lay it aside as a provision for the uncertainties of the future.

Accordingly I repeat: the double standard is really an alternative standard. No country under this system has ever as real money more than one metal. And that metal is the one, which has, on the commercial markets of the world, less value than it has under the form of money in the limited territory of the country where it circulates.

To avoid the logical consequences of the double standard, it is necessary to suspend its actual operation, or at least to mutilate its application by closing the mints to the coinage of the metal which is depreciated in commerce. This has been done by the countries that are members of the Latin Union — France, Italy, Belgium, Switzerland and Greece. In 1877 these countries absolutely suspended the coinage of silver money, and this group of countries has maintained that suspension from that time to this. These powers realized that, if their mints were kept open to the coinage of silver, when silver bullion had fallen in value in relation to gold below the value given it by their monetary regulations, the logical consequences would follow Quantities of silver bullion would be brought to the mints. It would be coined, and with the money so coined, gold would be bought, melted and exported — an operation which would give a rapid and certain profit. Under these conditions, if the mints of the Latin Union had been open after 1876 to the coinage of silver, there is not the slightest doubt that these countries would have been deprived of all the gold money they had in circulation. This money would have either been melted, exported and replaced by silver money, worth commercially much less, or would have been

reserved and hoarded by individuals or by banks, who could not be induced to part with it.

A country that is obliged to take the measure of suspending the coinage of one of the metals is really no longer a double standard country. Certainly it is not so in the complete sense of the term, although from certain points of view it may be regarded as such, so long as individuals can pay their debts, up to any amount in what is to them the most advantageous money — namely, depreciated coin. But when this coin is not increased in quantity, which is the case when free coinage is suspended, and also when, no matter how abundant it is, the demands of trade as a whole are not met by its use, it has the role of a sort of fiduciary money, like copper money. There is besides no way of withdrawing gold from circulation, since it is not possible to coin silver bullion. Nevertheless, if France, Belgium and Switzerland since 1876 have succeeded in keeping gold in circulation, it is not entirely due to the suspension of silver coinage; another circumstance has contributed to this end. These three states have no external debts, and in the whole sum of their economic relations (financial and commercial), with other countries they are habitually the creditors, rather than the debtors of other nations. This fortunate circumstance, along with the suspension of silver coinage and also on account of an abundant previous supply of gold, has enabled France, Switzerland and Belgium — but not the two other members of the Latin Union — to keep up a gold circulation, even under the incomplete double standard system under which they have lived since 1876. This system is not without its inconveniences. For instance, it can cause, and has commenced to cause recently the clandestine coinage of silver money. If this is developed it would contribute to the reduction of the circulation of gold.

GRESHAM'S LAW; BAD MONEY DRIVES AWAY GOOD. THIS LAW ONLY AN APPLICATION OF ONE OF THE MOST GENERAL LAWS OF POLITICAL ECONOMY.—This most important and most constant phenomenon that, under the double standard system, a country never has really but one of the two metals in circulation — namely, that which has in relation to the other more value as money than it has as bullion, is referred to a general law known under the name of Gresham's Law.

Sir Thomas Gresham, whom certain authorities wrongly describe as Queen Elizabeth's chancellor, was a rich citizen and merchant of London, born 1519, died 1579. He was called the Royal Merchant, on account of the notable services that he rendered to Edward VI, and still more to Elizabeth, by whom he was created a knight.[23] He was a financier, interested in State loans, but at the same time a man of intellectual talent. He was the founder of the Royal Exchange, and also of a college which bears his name. His experience led him to formulate the following law: "Money of less value drives out money of more value," when both are admitted on the same footing as a legal medium for settling debts between individ-

uals. Gresham's Law does not only apply to a double standard system, when one of the two metals has fallen as bullion below the value attributed to it. It applies also to coins unequally worn, and when coins below full weight are not returned to the mint. These light weight coins drive out those of full weight from circulation.

Gresham was the reviver in modern times, rather than the actual inventor of this great economic truth which was known also to antiquity. This work has proved already that the ancient Greeks had quite exact ideas on money; indeed political economy commenced as in science by the discovery of the natural laws governing money. In a passage of his celebrated play, the Frogs, Aristophones displays more familiarity with economic phenomena than the majority of modern dramatic authors. In this passage he gives a curious development to the proposition that bad money drives away good money. "The public," he says, "seems often to behave towards our noblest and our best fellow citizens in the same way as it does towards old pieces of money and new. For we avoid making use of pieces of good alloy, the finest, and at the same time the only ones that are minted well and are regular, except in the interior of our houses, or outside our frontiers. But we only employ bad copper pieces that are of the worst impression."[24]

Although it is formulated in a more technical and scientific way, Gresham's Law is neither clearer nor more decisive than these reflections of Aristophones.

English writers notice that one of the circumstances in which the action of this law was displayed most conspicuously was before the year 1695, when the State was keeping on the same monetary footing clipped coins and new and perfect coins. The latter disappeared. They were kept and hoarded, or at least were exported — just as was done in Greece in the age of Aristophones. Men and women were hanged, but the phenomenon was not stopped or even lessened. As soon, however, as the State refused to accept clipped coins at their original value, individuals felt authorized to do the same, and the new and perfect coins ceased to be hoarded or exported.[25]

Is Gresham's Law, as some economists state, to be considered as a proof of "the preference men have always for bad money?"[26] Is there in these facts just cited some strange and extraordinary character? Roscher, foreseeing this observation, remarks, that people unacquainted with Political Economy — especially a number of English statesmen, at the end of the the XVIIth century — have shown surprise that the contrary phenomenon did not take place. They could not understand why the better money was not chosen for circulation.[27]

This astonishment reveals a good deal of ingenuousness. Gresham's Law is no extraordinary principle. Neither is it a violation of the usual laws of human taste. It is perfectly conformed to general experience and is only the application in a particular sphere of a general economic law. We must not forget indeed that gold and silver, although they serve as money, have also other uses. Their monetary function is only one part of their utility. When two objects of merchandise have in general an unequal value and when both are equally suitable for a specific purpose, the object of merchandise that has the less general value is never employed for this specific purpose (unless it is impossible to do otherwise). The merchandise having the greater general value is used for those purposes where this greater value is assigned to it.

For example, a man wishes to drag a plough through a field, or draw a wagon on a road, and he has two horses — one a well-bred trotter worth a good deal of money, while the other is a very ordinary low-priced cart horse. Both of them may be able to do what he requires. For all that he would hitch the common horse to the cart, the high priced horse he would keep for the occasions where its superiority would count. If you wanted to give a tramp a chance to rest on your porch and there happened to be two easy chairs there — one chair a common cheap one, the other stylish and high priced, it would be human nature to give him the cheap one and keep the other for a more illustrious visitor. The same thing holds good of plate and glass. Your country cousin who does not know Trenton china from Dresden, to whom shiny electroplate is as good as a piece of Hall marked silver, will probably not have her appetite suited on your best

plate and china. They will be reserved for more appreciative guests. People go rummaging about farm houses trying to discover old china, or old curiosities and they get it from its owner by giving him in exchange common china ware or a piece of factory made furniture — things that are just as useful for the farmer's purpose as what he surrendered. All these are only specimens of example that might be infinitely multiplied.

When an equal monetary value is assigned by law to good and bad money, to clipped and unclipped coins, or when the law establishes between two precious metals under the form of money a ratio of value different from the commercial ratio of the same metals as bullion, it behaves as the farmer would, who wanted to hitch to his plough or to his wagon an expensive horse or a common horse without discriminating between them. It is like a man who would take his every-day meals indiscriminately in rare plate and rare china or in ordinary china and ordinary plate. The same simpleton might be trusted to lock up his clothes with perfect indifference in a dirty and dark room, in an elegant cabinet or in a common cupboard. The individual, who employed for the same purpose without any discretion objects of entirely different values, would soon be visited by people who would find an opportunity to get him to give up his expensive horse, his rare plate, his dear china, his artistic furniture. He would get from them in exchange an ordinary horse, cheap plate, poor china, and common furniture.

Countries that try to keep good and bad money in circulation at the same time, offer a similar opportunity to shrewd people to get hold of the good money which the law has placed on a monetary equality with the bad, although the former is far superior to the latter in other employments. The result is that the good money is melted, hoarded, or exported. Gresham's Law, I repeat, is only an application, in an especial sphere, of a general economic law. When two objects are equally suitable for a definite function, while one of them for other functions has considerable more value, it will invariably happen that the function, for which both are equally adapted, will be sacrificed by that object for the other functions, in which its superiority is recognized.

Gresham's Law is one side, relating to a special order of phenomena, of the general principle of action along the line of slightest resistance, or the economy of work and value. It is not a correct method of expression to speak of "the preference men always have for bad money." The real phenomenon consists in this: Men prefer to put to other uses a precious metal or a good coin, which monetary laws have wrongly assimilated to another metal not so precious or to a coin not so good. Since they prefer precious metal and good coin, they refuse to allow them to circulate on the same footing as the less precious metal and the bad coin. The former they withdraw from circulation and employ them for uses in which their superiority is better appreciated; that is, they are either exported, melted or hoarded.

The process of placing on a sort of single basis a monetary circulation, when a currency system consists of some coins of normal weight and others of light weight, is as follows: Coins of normal weight are clipped in order to remove from them the fraction of weight they have over and above the other coins that are equally received as mediums of exchange. When, however, there are two metals to which the law gives a value under the form of money different from its value in bullion, the process consists in melting or exporting whichever metal is rated as money below its value as bullion.

PROCESS BY WHICH GRESHAM'S LAW IS APPLIED.— The method of withdrawing a metal which is worth more as bullion than as money is very sure and very simple when the mints are open to the free coinage of the two metals according to a legal tariff. Our law, for example, has adopted the relation of 1 to 15½ for the value of gold and silver as coin — that is 1 gramme of gold is worth 15½ grammes of silver.[29] Now suppose the

ratio on the bullion market changes to 16 to 1. A shrewd speculator procures a certain weight of silver and takes it to the mint. He is given, at the end of a few days or at the outside a few weeks without charge or at a very slight charge a quantity of five franc ($1) pieces, strictly equal in weight (not including alloy) to the bullion he has brought there. With these 5 franc pieces, he can get a quantity of gold pieces, whose metallic contents represent in relation to the fine silver contained in the 5 franc pieces a weight equal to 16 times of it. This gold he melts and with the gold bullion buys silver bullion weighing 16 times more than the gold bullion, since the commercial ratio is 1 to 16. He will then have gained the difference between 15½ and 16 weights of silver less the seignorage for its coinage into money and less the interest on his money during the interval. These expenses are insignificant and can be left out of account for the present. He will accordingly realize about 3.22 per cent. on his operation. Again he takes his new bullion to the mint and the same operation is repeated as rapidly as is allowed by the delays of coinage and by the time required to perform the exchange of the silver pieces — given him by the mint — for gold coin in actual circulation. On each operation he makes the same profit, and it can be repeated with little trouble and time. A month is certainly too much. The profit in a year, not reckoning the slight deductions to be made in the previously mentioned causes, is 38 per cent. in round numbers. This sort of business besides involves practically no risk. As the process of coinage is rapid, and as the exchange of the silver pieces for the gold pieces takes little time, there is but a trifling change of the commercial value between bullion of the two metals being changed in the opposite direction during so short an interval. This scheme does not require much talent or business sense. It is open to every one who is shrewd and has some capital. So, when the commercial value of bullion of the two metals is considerably different for a short period from the monetary ratio of the metals in a given country, it takes only a short time — a few months, or at the most one or two years — for the metal, which has the most value as bullion, to disappear from circulation.

When the difference between the commercial ratio and the monetary ratio is very slight, both metals can remain longer simultaneously in circulation. The following circumstance must be borne in mind: on the one hand coinage of the commercially depreciated metals which is brought to the mint always cost something (even if it is only the interest during the process of coinage); on the other hand the melting and exportation of the pieces composed of the commercially appreciated metal also cost a certain amount more or less. Finally, the pieces of the more commercially valuable metal in circulation, which have to be obtained, are rarely full weight. They are often a thousandth or more short in weight, while the person who takes them in exchange for the depreciated metal is obliged to receive them at their theoretical weight. The result is that, if the fluctuations of the commercial ratio of the metals are small, and if they vary slightly from the monetary ratio, the operation just described ceases to be practicable. Yet even in this case, the proportions of the two metals in circulation has a tendency to change. The metal undervalued by the mint may not be withdrawn from circulation, yet it is no longer offered for coinage. The commercially depreciated metal is in the meantime being coined in more or less considerable quantities.

Experience proves that a difference of ½ per cent. between the commercial ratio and the monetary ratio is sufficient to make profitable this operation of withdrawing a metal undervalued as money by means of coining a metal overvalued as money. This holds good when gold in bullion can be exchanged, for instance, for 15.75 times its weight in silver.[28]

OF THE DIFFERENCES AND FLUCTUATIONS OF THE COMMERCIAL RATIO OF GOLD AND SILVER FOR THE LAST TWO CENTURIES. — In spite of the existence of a legal ratio in most countries, the commercial ratio between the value of gold and silver has never stopped changing.

The extent of these changes both in Antiquity and in the Middle Ages have been already discussed, and for the latter period examples of these monetary somersaults have been given. The Director of the United States' Mint has published a table of the commercial ratio of silver to gold since 1687, in the Report for 1893.[29] That table shows that the ratio never remained the same for three successive years. Examples of stability for two successive years, but no more, can be found. This biennial stability is exceptional. In order not to burden this work with a reproduction of this ratio for each of these 207 years, we shall take the extreme variations for periods of five years, without, however, limiting ourselves to this interval. The division into periods, according to the respective tendency of both metals, is our own.

COMMERCIAL RATIO OF SILVER TO GOLD, NUMBER OF WEIGHTS OF SILVER AGAINST ONE WEIGHT OF GOLD.

FIRST PERIOD.

From 1687 to 1750.

YEARS.	RATIO.	YEARS.	RATIO.
1687	14.94	1720	15.04
1689	15.02	1723	15.20
1693	14.83	1725	15.11
1697	15.20	1727	15.24
1700	14.81	1730	14.81
1702	15.52	1735	15.41
1705	15.11	1739	14.91
1708	15.41	1742	14.85
1713	15.24	1747	15.26
1716	15.09	1750	14.55

SECOND PERIOD.

From 1751 to 1800.

YEARS.	RATIO.	YEARS.	RATIO.
1751	14.39	1788	14.65
1756	14.94	1790	15.04
1760	14.14	1792	15.17
1763	14.99	1793	15.00
1769	14.72	1794	15.37
1772	14.52	1796	15.65
1779	14.80	1797	15.41
1782	14.42	1799	15.74
1786	14.96	1800	15.68

THIRD PERIOD.

From 1801 to 1850.

YEARS.	RATIO.	YEARS.	RATIO.
1801	15.46	1820	15.62
1802	15.26	1821	15.95
1805	15.79	1825	15.70
1807	15.43	1830	15.82
1808	16.08	1531	15.72
1810	15.77	1832	15.93
1811	15.53	1836	15.72
1812	16.11	1838	15.85
1813	16.25	1839	15.62
1814	15.04	1843	15.93
1815	15.26	1847	15.80
1816	15.28	1848	15.85
1817	15.11	1850	15.70

FOURTH PERIOD.

From 1851 to 1873.

YEARS.	RATIO.	YEARS.	RATIO.
1851	15.46	1865	15.44
1854	15.33	1867	15.57
1857	15.27	1868	15.59
1859	15.19	1870	15.57
1861	15.50	1872	15.63
1862	15.35	1873	15.92

FIFTH PERIOD.

From 1875 to 1894.

YEARS.	RATIO.	YEARS.	RATIO.
1874	16.17	1885	19.41
1875	16.59	1886	20.78
1876	17.88	1887	21.13
1877	17.22	1888	21.99
1878	17.94	1889	22.09
1879	18.40	1890 (Sherman Law)	19.76
1880	18.05	1891	20.92
1881	18.16	1892	22.72
1882	18.19	1893 (Nine Months)	25.77
1883	18.64	1894 (March)	30.00
1884	18.57		

DIFFERENT CAUSES OF THE FLUCTUATIONS OF THE RATIO OF GOLD TO SILVER FOR THESE TWO CENTURIES — By careful examination of this table, leaving out by account the fifth period from 1874 to 1894, which is marked by a precipitate decline in the value of silver, we perceive that during all four periods from 1687 to 1873, the commercial ratio of silver to gold has not only varied incessantly, but has even varied at short intervals in very considerable proportions. If we remember that a difference of a third or fourth of one fifteenth, that is from $1\frac{1}{2}$ to 2 per cent., between the commercial ratio of two metals as bullion and their legal ratio as money is enough to cause the melting of the coins composed of the metal unfairly treated by the mint, it is evident that this operation must have often taken place long before 1873.

The greatest value of silver relatively to gold from 1687 to 1850 was in 1760, when 14.14 grammes of silver could buy 1 gramme of gold, and the lowest value of silver in the same period was in 1813 when it took 16.25 grammes to buy 1 gramme of gold. In this interval of 53 years we find then between the extreme values of silver a difference of 16 to 17 per cent.

The fluctuations were slighter in the shorter periods, but they were frequently sufficient to prevent both metals from circulating simultaneously in double-standard countries. With the inducement of this trifling difference of value, one of the two metals was either melted and exported or it was hoarded and sold at a premium. For example, from 1813 to 1814 silver suddenly gained in value and the ratio fell from 16.25 to 15.04. Political events, of course, from a reason which we shall soon see, had undoubtedly much to do with this rise in silver of nearly 8 per cent. in the calm and peaceful year of 1814 that followed the two terrible years of war — 1812 and 1813.

In more distant years we find that silver went from 14.83 to 15.52; that is in ten years from 1693 to 1702 it fell more than 4 per cent. Afterwards from 1702 to 1730 it went from 15.52 to 14.81, gaining almost exactly the original $4\frac{1}{4}$ per cent. loss. In five years, from 1730 to 1735, silver again lost about 4 per cent., going from 14.81 to 15.41. Then in sixteen years, from 1735 to 1751 it gained more than 6 per cent. going from 15.41 to 14.39. In the following the changes in the ratio are very marked: The rise in silver lasts till 1760, in which year 14.14 weights of silver could purchase 1 weight of gold. This is the maximum value of silver in a period of two and a half centuries. From 1735 to 1760, in twenty-six years, the commercial ratio of silver to gold changed from 15.41 to 14.14 — a difference of more than 8 per cent. Then suddenly in a very few years, from 1760 to 1763 silver fell nearly 6 per cent., the ratio being 14.99 instead of 14.14. The fluctuations keep on varying in one direction or the other until 1790. From this year begins a marked fall in silver; so marked that in 1799 the ratio is 15.74, while eleven years before, in 1788, it was 14.65 — a depreciation of more than 7 per cent. From 1800 to 1802 there is a rise in silver apparently due in part to the Peace of Amiens, gold being always sought after in periods of confusion. Then the depreciation of silver began again and reached its maximum in 1813. There was a reaction in the value of silver during the years of peace — from 1814 on. Then, again a depreciation that reached its extreme point in 1821, when the ratio was 15.95. Although

slightly less for the following years, the depreciation of silver continued till the fourth period, at which time, 1851, the Australian and Californian gold mines were discovered. Up to this date silver is worth less than the value given it in our monetary laws—15½ to 1. This explains why there was no gold in circulation in France till 1851, gold being constantly at a premium.

In the period we have called the Great Golden Age, a change takes place. Silver gains in value and is worth more than the legal ratio. The maximum of this value is in the year 1859 when 15.19 grammes of silver were sufficient to buy 1 gramme of gold. This represents about a 2 per cent. excess value of silver over the legal ratio.

This rise in value went no further. Gold was easily absorbed in industrial employments as well as under the form of money by the prodigious advance of business needs. On the other hand the production of silver increased in a considerable measure. From 1867 silver declined in value to a point just under the legal ratio. Then it commenced falling again, and from 1873 it took 15.62 grammes of silver to buy 1 gramme of gold—a loss of more than 2½ per cent. relatively to the mint ratio. The examination of the uninterrupted and profound decline of silver from 1874 we shall defer to a later page.

If we want to put these observations in a general form, after giving close attention to the table, the following conclusions seem to follow: (1) From 1687, when precise information is first to be had, and from which point the statistics of the ratio are uninterrupted, the variations of the commercial ratio of gold and silver have been incessant and have often presented a wide divergence. (2) These variations have occasionally had a temporary cause, which during certain years was very marked; for example, the insecurity at the time of great wars or revolutions, increase the value of gold and diminish that of silver; the re-establishment of peace has occasionally the contrary effect. (The action of this cause was conspicuous notably in the year 1802—Peace of Amiens,—1812 and 1813—the culminating point of the wars of the First Empire, 1814—re-establishment of peace); variations in the ratio of gold and silver have, however, a more profound, a more enduring cause, namely, modifications in the production of one or the other metal. To be convinced of the truth of this last statement it is only necessary to compare the table just given with the record of gold and silver production for each period.

We see for example, that 1702 to 1727 in general, the value of silver was considerably below its value from 1750 to 1780, since during the first period the ratio, with a few exceptions, was far above 15 to 1, while in the second period it was near 14.50 and 1.60, and sometimes went below 14.50. The first period, according to Soetbeer, is marked by a production of silver very much greater in proportion than the production of gold at the same time. The percentage of the respective weights of the two metals were 3.1 of gold and 96.5 of silver in the period from 1680 to 1700, 3.5 of gold and 96.5 of silver in the period from 1701 to 1720. After this date the proportion of gold increases considerably; it was 4.2 against 95.8 of silver from 1721 to 1740, 4.4 of gold against 95.6 of silver from 1741 to 1760. In this last period, with the exception of the year 1747 the value of silver reached its highest point previous to the XIXth century. From 1761 to 1780 when the value of silver was still quite high, the percentage of gold produced in the total production of the two metals continued to be relatively considerable, viz: 3.1 of gold against 96.9 of silver.

From 1785 to 1786, especially from 1790 to 1810, on the contrary silver had a marked decline; the ratio with gold stopped between 15.50 and 16. and occasionally it

went above 16—a fact that had never been before seen. The cause was the diminution in the production of gold in this period. The percentage of gold produced in the total production of both metals was only 2 per cent. against 98 per cent. of silver in the period from 1781 to 1800, a smaller percentage by half than in the period from 1721 to 1740, and smaller still than in the period 1741 to 1760. The proportion of gold produced is slighter still from 1801 to 1810,—the period of the greatest decline in silver, before recent times. For this decade it is only 1.9 against 98.1. In the following periods, till about 1830, silver was weak, oscillating between 15.50 and 16 except in the few abnormal years from 1814 to 1817. The percentage of gold produced although slightly greater continued to be still very much below that of the middle of the XVIIth century (1721 to 1760), when in the total sum of the two metals more than 4 per cent. of gold was produced against less than 96 per cent silver in the total product of both metals. From 1811 to 1820 the percentage of gold was 2.1, and that of silver 97.9. From 1820 to 1830 it is 3 to 97, from 1831 to 1840, it is 3.3 to 96.7—still a very inferior percentage to that from 1720 to 1760. Only in the period from 1841 to 1850, and particularly in the later years of that decade does the percentage of gold produced again become considerable (6.6 to 93.4 of silver),[21] but the gold production was taking place at a distance, especially in the Ural mines, and gold had a greater outlet at this time as a result of the growth of wealth after the application of steam and after the introduction of modern methods on a gigantic scale. On the other hand the bad harvests of 1846 and 1847 and the revolutionary movements of 1848 and 1849 created a sudden increase in the demand for the easiest transportable metal. The effect then of the increased production of gold was not very marked or immediate on the value of silver.

But this effect becomes, on the contrary, very visible and very pronounced after 1857. The percentages of gold and silver produced are in the total amount of production respectively 18.2 and 81.8 for 1851 to 1855, 18.5 and 81.5 from 1856 to 1860. We see that in this decade silver has decidedly gone up in price. The advance lasts but is less accentuated in the following interval of five years, 1861–1865 in which the percentage of gold is 14.4 and that of silver 85.6. In the five years from 1866 to 1870, on the contrary, silver declined, the percentage of gold being 12.5 to 87.5 of silver. The phenomenon of the fall of silver is accentuated in the two quinquennial periods of 1871 to 1875 and 1870 to 1880, on which the percentage of gold falls to 8 against 92 of silver and to 6.8 against 93.2 of silver.

It is alleged, however, that for this and the following period, other circumstances caused silver particularly to decline, and it is not doubtful that different contingencies bore a share in its decline after the year 1873. We shall speak of this further on.

It is true that not only have gold and silver never had a stable ratio of value but also that from 1687 the variations in value, set down in the last table very perceptibly follow those which have taken place in the sum total of the production of both metals. Reinacth has demonstrated the same thing in Greek antiquity. A great fact controls in an incontestable way the ratio of value between gold and silver, namely, the proportion in the production of the two metals.

Another order of causes, however, exercises a marked influence, viz: the demand of the two metals increases very unequally according

to the degree of civilization. Gold is much more in demand than silver both for industrial uses as well as for a monetary medium in countries of largely developed wealth. We have proved this proposition already.[32]

SUPERIORITY OF GOLD, AS MONEY OVER SILVER, IN RICH COUNTRIES. — Gold was adopted as money by the Greeks, when they attained an opulent condition; by the Romans when the conquest of the world was in their hands; by rich cities in the Middle Ages like Cologne, Lubec, Florence and Venice; by the most flourishing states of modern times. England at the commencement of the XIXth century, after a fruitless attempt at the same thing by Edward III, the great champion and the founder of British trade in the XIVth century, adopted the gold standard. So did Germany after its marvellous successes of 1866 and 1870 and 1871, at the commencement of a remarkable era of industrial and financial development. So did Austria-Hungary when it reached a more favorable economic situation. For every rich country gold is a better monetary metal than silver for this reason: it contains a much greater value under the same volume. Not only great transactions but also moderate ones are carried on more easily in gold, since a fixed sum of money under the form of gold is more easy to carry and more easy to count.[33]

These are not merely accessory advantages. When in a given country revenues of all sorts are greatly increased, incomes and salaries as well as the resources of capitalists and business men, when trade operations are largely developed, when city workmen receive 5 to 10 francs a day (1 to 2 dollars), 65 to 130 francs a fortnight (13 to 26 dollars), or 130 to 260 francs a month (26 to 52 dollars), then gold acquires a more important monetary function than silver. When, besides, money payments from place to place, from country to country, are frequent and large, then this primacy of gold, based on the principle that it contains under its volume more value than silver, is established firmer every day.

It is urged as an objection that the precious metals, as far as they are money, are not intended for actual circulation, but are to be put in banks and represented by bills; consequently, the fact of a money being heavy and burdensome is a matter of no importance. This argument cannot stand. In the first place, in most countries, bank notes never go below a pretty considerable figure. Five pounds in England ($25), and fifty francs in France ($10). If we had to carry in a purse for small purchases the value equivalent to this sum in silver coins, for 50 francs ($10) we should have a weight of 250 grammes, (½ lb. Av.), granting that the ratio 15½ to 1 was stable. For 125 francs ($25), the smallest English bank note the weight would be the considerable one of 625 grammes (1¼ lbs). If silver money were coined according to the present commercial ratio, which is 35 to 1 (end 1894), the weight of silver money to be coined would be more than twice as much as we have already estimated.

But the problem really ought to be put on this footing. Merchants and manufacturers have always to keep and often to transport from one place to another a certain sum of small coin to give to customers or to pay workmen or small dealers. A contractor who wished to settle the pay roll of 100 navvies who had each furnished a dozen days of work at 3.50 to 4 francs (70 to 80 cents), the normal salary at the Public Works. This sum would represent an average sum of 42 to 48 francs ($8.40 to $9.60) if they all had worked full time. Let us set down an average of 40 francs ($8), as each man's pay; this would amount for the 100 to 4,000 francs ($800). In silver money this sum would weigh 20 kilos (47 lbs.); according to the present mint ratio, a very ponderous weight. If we allow nine-tenths of the payments to be made in gold pieces of 20, 10 or 5 francs (4, 2 or 1 dollars), and only one-tenth in silver, he must carry, according to the present mint ratio, only about 3 kilos 150 grammes of precious metal, or 2 kilos (4 3-5 lbs. of silver representing about 400 francs $80) and 1 kilo 150 grammes of gold (2½ lbs). This is infinitely easier. By making besides a good combination of the several gold pieces, and by getting change from the workmen to whom is owed a fraction more than is accounted for by the gold pieces, the monetary weight necessary for these payments can readily be brought down to 2 kilos or 2½ — a weight easily carried (4½ or 5 lbs).

The relative weight of a sum of gold and a sum of silver must not only be considered, but also the absolute density of each of the metals. This is sensibly greater for gold, and constitutes a fresh advantage; from this it follows that a certain weight of gold occupies a less volume than a like weight of silver.

To hold that metallic money is not made for actual circulation and that it must for the most part be reserved in banks and represented by a convertible paper money, is to regard only large transactions, and to slight the whole mass of daily transactions and payments in the lower and middle classes of the population of cities and in the entire population of the country. We should not forget too the demands of international trade. Circumstances have in the last fifty years reduced the transfer of precious metals for this purpose; but, for all that, between nations there is a frequent interchange of actual coin.

Finally we should observe that metallic money is far more sought after than bank bills. For example, in countries with a depreciated currency, people prefer a small reserve of metal to a reserve of bills, which run the risk of further depreciation. When a metallic reserve is formed by prudent individuals in view of unforeseen circumstances, travel or the like, they prefer to save it in the form of this easiest transportable money. It may be said that such a reserve could be advantageously replaced by good securities of countries without a depreciated currency or by bills of exchange on these countries. This is true but it is not within the reach of every one.

Metallic money acquires accordingly a particular importance in countries that have abused the circulation of fiduciary money and have fallen into the system of inconvertible paper money. Every individual who is prudent and well to do will collect a reserve of some hundreds of dollars of the metallic money that is easiest to keep, conceal and manage. This prudent practice can hardly be blamed.

In times of war or revolution it is the same thing. At these periods gold is more sought after than silver, and no matter what the previous ratio of value between the two metals has been gains in value from the simple reason that it can be concealed and transported more easily. The tables already given on pp. 19-20 prove this fact, giving due allowance, in the changes of value of the two metals, to the oscillations of production. During the French Revolution from 1790 to 1800 silver lost in value, partly because the production of gold diminished, but partly too because insecurity of life and uncertainty of the future caused a demand for gold. From the time of the Consulate and above all at the Peace of Amiens silver goes up in value, falls after war is resumed, goes rapidly down in the calamitous years of 1812 and 1813, and then rises considerably at the time

of peace from 1814 to 1817. Not only individuals procure gold in case of war to hoard it but the War Department, because it has the greatest value and the least weight and volume, prefers it under these circumstances to silver.

M. Courcelle Seneiul, in his "Treatise on Banking Operations," publishes an interesting table on the variations of gold coin and gold bullion in the troubled period from 23rd February, 1848 (the eve of the Revolution) to 1852, taken from the official Bulletins of the Paris Stock Exchange. It is worth reproducing. At the eve of the Revolution of 1848 gold was already at a premium on account of the enormous production of silver during the whole of the first half of the century, and from the new outlets which renewed industry, increased wealth and luxury had opened to gold at the time its production increased by the working of the Ural mines. In the month following the Revolution the premium on gold coin went up ten-fold, while the premium on gold bullion only tripled. We see from this that gold coin was especially in demand by the majority of people who ignore commercial facts. When the critical phase of the Revolution passed, the premium on gold coin declined; the difference between the premium on coin and the premium on bullion disappeared. Only, however, at the end of November, 1843, did gold return to a point not far from where it had stood in the preceding February. After the election of the Constitutional Assembly the 23rd and 24th of April, the panic diminished and with it the premium on gold declined. In 1851 gold was at par with silver or underwent a trifling loss. Since the political circumstances that had caused its rise had ceased to exist, and the discovery of the California gold mines in 1843, and the Australian in July, 1851, was beginning to influence the metal market.

TABLE OF VARIATIONS OF THE VALUE OF GOLD, IN COIN, BULLION OR OBJECTS MADE OF IT.[34]

DATES.	Premium on Coin per 1000 francs.	Premium on Bullion per 1000 francs.	DATES.	Premium on Coin per 1000 francs.	Premium on Bullion per 1000 francs.
1848.			1848.		
February 23....	8	11	July 1....	22	....
March 8....	35— 40	25—30	August 2....	9	8— 9
9....	45— 50	id	24....	12—13	11—12
11....	55— 60	....	November 3....	15—16	15—16
15....	90—100	....	7....	20	20
18....	120	....	11....	19—20	18—19
20....	45— 50	....	20....	7— 8	7— 8
23....	40— 50	30—40	1849.		
27....	70— 80	60—70	February 27....	4—4.50	2—2.50
30....	85	....	May 24....	15—16	15—18
April 1....	80	....	September 25....	11—12	9—10
3....	70	....	October 8....	15—16	14—15
6....	60— 65	....	December 20....	13—13.50	12—12.50
7....	75— 85	....	1850.		
14....	50— 55	50—60	May 16....	22	22
19....	45— 50	40—50	October 11....	par	1
22....	25— 30	30	18....	par	par
24....	35— 40	....	1851.		
May 1....	18	15	March 26....	par	2 p. ct. loss.
4....	30	24—25	August 13....	par	3
6....	18— 20	15—18	1852.		
June 23....	20— 22	18—20	November 13....	1.50— 2	0.50— 2
29....	24	....			

This table is striking, By the sole effect of a political panic, in the three weeks that followed the Revolution of 1848, the premium on gold in coin went from 8 francs on the thousand ($1.60 on $200) to 120 on the thousand ($24 on $200); this is 12 per cent., an enormous percentage. During the whole critical period of the Revolution it remained very high. The premium on gold bullion also rose. It reached 70 francs on the 1,000 ($14 on $200). We can see why it was always less. The public at large preferred coin to bullion; and on the other hand bullion tended to flow from other countries to Paris in order to profit by the premium, while gold coin could not be suddenly increased. At Vienna, according to Roscher, in 1848, the premium on gold relative to paper money went to 33 per cent., while the premium on silver was only 3 per cent.[35]

Few political panics are as intense as the one just cited. But on a smaller scale at any deep and disquieting disturbance gold gains in value in relation to silver. A metal capable of suddenly gaining 12 per cent. in value as the result of events that are not unknown in national life obtains from this circumstance a new and unquestioned advantage.

THE SIMULTANEOUS EMPLOYMENT OF BOTH METALS WITH ONE OF THEM SUBORDINATED — SUBSIDIARY OR TOKEN MONEY — RULES ON THIS SUBJECT. —The maintenance of the double standard with the effective and simultaneous circulation of both metals is an impossibility. We have proved this statement by statistics and by the mass of information recorded already in these pages. It has been proved that this system cannot be applied by a single state — no matter how large — or by a group of states. After a few pages we shall study what would happen if all the civilized countries, or at least the mnjority of those foremost in rank, agreed to adopt a system of this character.

There are a number of people, however, who declare themselves to be partisans of a double monetary standard. Some of these people are business men, while others but very exceptionally, are scientific men.

A preliminary misunderstanding must be removed. Some economists seem to suppose that the double standard is the result of the necessity of taking several metals to correspond to the diversity of payments. This is not true. The employment of several metals in actual circulation is very easy and causes no difficulty. When different metals are not given the same legal position, and when one of them (preferably gold) is made the standard, while the others, first silver, and then nickel or copper are reduced to the role of subsidiary or token money, the monetary apparatus becomes very simple and works with no trouble, provided it is conformed to the laws that govern subsidiary money, no matter whether it be silver, nickel or copper.

1st. The mints must not be opened to free coinage of these metals, and the quantity of each sort of subsidiary money must be reduced to a limited sum, proportional to the size of the population, so that, while small transactions may be easily carried on, this

subsidiary money may not become superabundant, and exceed what is necessary for the daily needs of retail business. In the Latin Union the quantity of fractional money is fixed at 6 francs ($1.20) per inhabitant [coins 2 francs (40 c.), 1 franc (20 c.), 50 centimes (10 c.) and 20 centimes (4 c.)] If the 5 franc ($1) pieces were also reduced to token money, it would be possible to fix at 20 francs ($4), or 25 francs ($5), at the outside 40 francs ($8) for each person the quantity of all the silver coins that need be retained.[36]

2d. Restrain the power of this token money as a medium of exchange to small sums: that is, make it impossible for a debtor to impose on a creditor more of it than a legal sum. In England, silver money can not exceed the sum of £2 ($10) in any payments. In France, on account of bad precedents and the wars of 5 franc ($1) pieces, this limit might be carried to 100 francs ($20).

3d. As a precaution against changes of relative value between the two metals it is a good practice to coin the token money at a metallic percentage, that makes the pieces of this money less in value than bullion of the same metal. In this way, if the commercial ratio happens to change in favor of the metal of which the token money is made, there is protection from speculators who would otherwise withdraw it from circulation and melt the coins that had more value as bullion than as money. The plan adopted by France, at a period prior to the depreciation of silver (1864), of coining its silver token money with .835 instead of with .900 of fine silver, was a precaution of a perfectly legitimate kind. There was then a difference of more than 7 per cent. between the real and the nominal value of these coins, and when the value of silver went up relatively to gold, 5.6 or even 7 or 8 per cent., this precaution preserved them from being remelted, for we must reckon the time and expense necessary to procure the coins and recoin them. This precaution has proved itself a useless one in the past, since silver, instead of rising in price, has lost at the present time (end of 1894) about 55 to 56 per cent. of its value in 1864. It was the part of prudence, however, to take this precaution. If the commercial value of the metal forming the subsidiary money were to increase in proportion considerably larger than the difference originally established between its real value and its nominal value, it would have been recoined and the percentage lowered.

As this operation would only have concerned small quantities, the money being originally strictly limited, the inconvenience would not in any case have been great, and besides the Treasury would have benefited, since the recoinage would be made on the basis of a lower percentage. To provide against this possibility and to make it less probable, states using a single standard with subsidiary or token money of another metal, having a subordinate monetary position can, as an increased precaution, instead of contenting themselves with a difference of at least 7 to 7½ per cent. between the real and monetary values of this coinage, carry this difference to 15 or 20 per cent.

Accordingly, the simultaneous employment of both metals, when one of them is reduced to the subordinate role of token money, does not cause the slightest trouble or difficulty of any kind, provided the three preceding rules are followed out.

Is it otherwise when different countries trading with one another have different monetary systems, some with a gold standard, some with a silver standard, and some with a double standard? The treatment of

this question involves the study of the whole theory of credit. We can safely say, however, that the commercial relation of different countries can be carried on normally and without difficulty in spite of different monetary standards, whenever governments have not complicated the situation by large external loans, and when they do not continue to make it worse by monetary nostrums, such as the issue of inconvertible paper money. Mercantile exchanges between different countries ought really to pay for themselves with no necessity of exporting or importing great quantities of coin. Countries that do not produce the precious metals can get them in exchange for merchandise. Great external debts, imprudently contracted by states, and the financial expedients (paper money and the like) they adopt, are the only things that hinder and disturb the automatic regulation of exchange between countries that are under different monetary systems.[37] If the double standard were only unworkable and had no other inconvenience, that would be enough to condemn it. It is worth while, however, examining the arguments that are from time to time brought up in favor of it.

The first reason is that money will always be open to less fluctuations of value with two metals than with one. This proposition is not exact. If both metals have an absolute monetary function, each one is liable to fluctuate. So France, a double standard country, underwent, from 1800 to 1850, internally as well as in its external relations, the whole effect of the slight but real depreciation of silver, the only metal remaining in French circulation during this period. In the following period, from 1851 to 1870 France passed through all the consequences of the fall in the value of gold. As double standard countries are condemned to have in circulation in an abundant and regular manner, only one metal — the one whose value in money is superior to its value in bullion, the result is that such countries endure in succession the fluctuations in the fall of both metals.

In double standard countries there is this special circumstance that the risk of variations in the value of money is only a risk of depreciation and never a risk of increased value, unless the appreciation or rise in value affects both metals at the same time, and not one of them. In single standard countries, on the contrary, there is the two-fold chance, the chance of a fall and also the chance of a rise in value.

It is pretended, it is true that, granted fluctuations are more frequent in double standard countries, since a change of value of 1½ to 2 per cent. in the commercial ratio is sufficient to cause a melting and exportation of coin made with that metal where value as bullion has risen, yet at least variations of this kind will be less violent. This is called the parachute theory; the double standard keeps the more depreciated metal from an

excessive fall. Certain facts, more apparent than real, can be alleged in favor of this proposition. During the Golden Age (1849 to 1870), when France, Belgium and other countries were under the double standard, gold having fallen in commercial value on account of its abundance, drove out in France, partly at any rate, silver money, and took its place. This was a new outlet for gold and contributed to prevent a too precipitous drop in this metal. Silver, driven from French circulation was absorbed in great part by Oriental countries, India, China, Egypt, whose commerce was then considerably developing through various circumstances — cotton cultivation encouraged by the War of Rebellion, progress of navigation, etc. — and also to a certain extent by South American countries.[28]

It is certain that this increasing absorption of silver by Eastern countries, and to a less degree by the countries of Latin America, contributed to open in the United States and in Europe a considerable outlet for gold and helped to prevent gold from falling as much as it would have done without these circumstances. If, for example, as is indicated from the information contained in the note referred to above, the silver in circulation in France diminished to about three milliards of francs ($600,000,000), there was an opportunity, under this head alone, for the employment of the same sum in gold, without any rise in price. As the same movement must have taken place in different other countries, it is clear why gold did not fall more than 15 to 20 per cent. so far as can be judged, from 1850 to 1870, or more exactly from 1840 to 1870, although the quantity of gold produced in these 30 years exceeded 15 milliards ($3,000,000,000) against the 14 milliards 482 millions ($2,898,500,000) that represent the entire production from 1493 to 1840.

The quantity of money existing in Europe and in the United States was not increased by all the gold produced, nor even by all the gold with a deduction made for the fraction of it that was devoted to industrial uses. It was only augmented by the gold produced less the fraction absorbed and also less the total sum of silver money withdrawn from Europe and the United States, to be sent to the people of Far-Asia, of Africa and of South America.

Under these conditions, the simultaneous existence of gold and silver money in great quantities in certain European countries, and the vacuum gradually formed in their circulation by the withdrawal of silver money were able to deaden to a certain extent, the enormous influx of gold which took place during the interval from 1840 to 1870, and especially from 1850 to 1870, and prevented a greater alteration of prices.

This circumstance, however, was extraordinary and exceptional. To-day since the quantity of gold is much more considerable (compared to its annual production), and since the difference between the annual production and the stock of gold in the world tends gradually to increase, the double standard is not likely to perform similar services. Its continuance will inflict daily difficulties and, considering the almost unlimited abundance in the possible production of silver, it will bring alterations of prices and monetary disturbances that cannot be compensated by any corresponding advantage. In reality, the principal merit of the double standard, in the eyes of its partisans, is certainly the depreciation of money caused by it. According to the theory of the inflationists

there is never enough real money nor enough monetary tokens. They contend that each new influx of money and each rise in price stimulates production. We have already explained on page 11, how certain classes of the population can draw a temporary advantage from an influx of money. This advantage lasts as long as the influx has not distributed itself through all the channels of circulation and has not yet provoked a general rise in prices. But this artificial movement is followed by a corresponding depression, and it brings with it suffering for a considerable class of the population, for all those who live on fixed incomes, especially on salaries and on pensions, since the former lag far behind the rise in prices, at least in some districts and in isolated professions, and the latter of course do not change at all.

Partisans of the double standard profess great tenderness and concern for debtors and borrowers whom they claim to be the most active members of society — which is of course not true except in a few cases. It is certain that every influx of money by which prices are raised improves the situation of debtors. If they are farmers, manufacturers, landlords, they can more easily pay the interest on their debts and return the capital. If their debts run for a long period their situation is particularly advantageous, because during this interval an uninterrupted influx of money can elevate prices 50 or 100 per cent. or even 500 per cent (as in the century following the discovery of America), while the sum due as interest or capital remains fixed, and it is payable in money whose value has had an extraordinary fall. In this sense it can be said that Columbus brought back from America freedom from old debts.

A point of view that considers debtors alone and does not regard people who live on incomes, either fixed, or hardly capable of variation (since incomes are slow to change from force of custom, which affects them as it does salaries), is a very narrow point of view. History shows that a general rise in prices, and the disturbances that follow have enormous inconveniences for the most valuable classes of the population. The historian of the precious metals, Jacob, has described these sufferings: borrowing extracts from a writing of the XVIth century — "A brief Conceipte touching the Commonweal of this Realme of England" — he has proved that if landlords and farmers, as well as merchants and manufacturers, are better off, laborers are injured. Even merchants, if they are to a certain extent benefited, often suffer great difficulties from these revolutions in prices.[29]

Money ought to be as stable as possible. Every system of inflation must be condemned. The theory of the modern credit system shows that the world can, by using improved methods of settlements and pay-

nents, do business on the largest scale with a small amount of metallic money, and practical people realize this fact. The fear of money becoming scarce is one of the vainest fears that exist.

THE FALL OF SILVER SINCE 1873 AND ITS CAUSES. — The tables we have printed (pp. 19–20) on the variations of the commercial ratio of value between gold and silver show the enormous fall in the value of silver. From 1870 to 1894 the commercial ratio fell from 15.57 1 to 34.1 : that is, to-day it takes 34 grains of silver to buy 1 grain of gold, while 24 years ago it took 15.57 grains.

The causes of the tremendous fall in the value of silver have been much discussed. Some people ascribe it to governmental interference in prescribing and reducing the employment of silver.

In the last years of the decade, 1860 to 1870, the adoption of a single gold standard was discussed in the majority of countries on the continent of Europe. Roscher has told us of a movement in this direction which was active in Germany as far back as 1854, and which had its center the great commercial city of Hamburg.[40] In France, the government called in 1867 an international congress, at which the majority of civilized States were represented ; it undertook an investigation of the different questions concerning gold and silver, and especially the question of the utility and opportunity of changing from the double to the single standard. In this investigation, conducted by the Chief Council of Commerce, Agriculture and Industry, only eleven witnesses spoke in favor of the maintenance of a double standard ; twenty-four declared for a single gold standard. The report of the investigation concludes to the same effect, " It has been recognized by the majority of the witnesses," it says, " that a single gold standard is the only possible ground for a monetary union." The same report uses as motives for the abandonment of the double standard, the great increase in the production of silver; the annual production, which in 1847 did not exceed 200 millions ($40,000,000), is to-day valued at 400 millions ($80,000,000) ; it is increasing, while the production of gold remains stationary or slightly diminishes. On the general market silver tends to decline in value; gold, on the contrary, is in demand. More than 500 millions ($100,000,000) in silver 5 franc ($1) pieces are already accumulated in the Bank of France, and the public is not willing to receive these heavy coins ; silver seems to be becoming unpopular, and we should quickly demonetize it if we are not willing to be the last to be burdened with an inconvenient metal.[41]

This document alleged too that " silver money has not only the material disadvantage of being heavy and embarrassing, it has, besides,

the inconvenience of leading to the unlimited use of a paper circulation to take its place," and North Germany was given as an example. It also called attention to the very pronounced movement in Germany for the demonetization of silver and the adoption of a single gold standard, in which case it declared the circulation of gold in France would be placed in peril. It finally mentioned that the double standard was an alternative standard, and that it could be converted in France into a silver standard.[42]

From 1867, there was in Europe a strong movement for a single gold standard. The increase in the production of silver and its fall in value, although then restricted, commenced to disturb foresighted people.

It is unfortunate that France did not adopt in 1867, the advice of the most experienced men, M. M. Michel Chevalier, de Parieu, and of the majority of the witnesses at the monetary investigation of that year. If it had adopted at that time a single gold standard before Germany, its monetary situation would have been very superior ; it would have been able, without great loss, to demonetize 1 milliard ($200,000,000) of silver, or at least 500 to 600 millions (1000,000,000)—$120,000,000) ; besides we should not have had the 451 millions ($90,200,000) of silver money coined under the third Republic 1870–1876 ; finally, we should not have been encumbered with the stock of the Italian and Belgian 5 franc ($1) pieces, which will be difficult for us to return (at least the Italian ones) to the countries that have issued them. If in 1867 we had adopted the single gold standard, we could have reduced, without great sacrifices on the Treasury's part, the stock of 5 franc pieces remaining in France to 1 milliard ($200,000,000) at the outside. This would not have been an excessive amount to retain as a subsidiary money, of a metal which is employed in rural districts to a large degree. To-day, on the contrary, as France retains, as well in national as in foreign coin, about 3 milliards ($600,000,000) of silver, and as the metal has lost 55 per cent. of its monetary value (end of 1894), we are pledged to maintain (unless we make enormous sacrifices), even if we adopt the gold standard, a subsidiary silver currency far exceeding our needs, especially if we cannot get Italy to take back the sum total of her coins that are in our circulation.[43] By carelessness and by inveterate devotion to routine, France has seen more resolute countries go ahead of her. Germany, after her victories of 1870–1871, furnished with the resources of the enormous war indemnity (5 milliards —$1,000,000,000), she had obtained, decided, by the laws of 4th December, 1871 and of 9th July, 1873, to demonetize silver from its place of principal money and to adopt the single gold standard.

Prudently imitating Germany, the Scandinavian countries, Norway, Sweden and Denmark, concluded in 1873 a monetary treaty for the demonetization of silver, which was ratified by Sweden and Denmark in 1873 and by Norway in 1875. By this treaty, these powers adopted the single gold standard and transformed their silver into subsidiary money, which could only be coined on government account.

Holland, which from 1847 had had the single silver standard. in 1875 followed the example of Germany, in fact at least, although not absolutely in law. She passed nominally to the double standard, at the ratio of 1 to 15½ for the ratio between the two metals and forbade the coinage of silver. This action transformed the country into one having a gold circulation.

The Latin Union, that is, France, Belgium, Switzerland, Italy and Greece, in 1876, completely suspended the coinage of 5 franc ($1) silver pieces and they have never resumed it. In 1876 Russia did the same, except for the coins rendered necessary by her commerce with China. Austria-Hungary, which was under a nominal system of the silver standard, and under a real system of paper money suspended also, after 1879, the coinage of silver which had fallen below the paper money, and in 1892 formally adopted the single gold standard; a reform which is being carried out at the present time.

The 26th June, 1893, the Legislative Council of India passed a bill closing the mints against the coinage of silver on the account of private individuals. Finally the United States, by an Act of the 1st November, 1893, repealed the Sherman Law of 14th July, 1890, which had itself repealed the Bland Act (see pp. 12-13), both having as objects obligatory and regular purchases of silver by the American Treasury. Such is the progress in the renunciation of silver as a principal money by the great civilized powers, England having prohibited the coinage of silver from 1798, adopted the single gold standard in 1816.[44]

Does the enormous decline of silver in twenty-five years (since 1870) proceed solely or principally from the measures above enumerated? They have certainly contributed to it by diminishing one of the outlets for the use of silver; but have they not in a fashion accomplished something for which they are not wholly responsible, and which they did not produce? Would not the value of silver have fallen — its proportion might have been less and yet not inconsiderable — if no change had been made since 1870 in the monetary organization of different nations?

For an attentive observer there is no question that these legislative measures have made the fall in silver an accomplished fact without having caused it directly, simply because they have been compensated by

other artificial legislative measures, namely, the Bland Act (1878), and the Sherman Law (1890), taken by the United States of America (see pp. 12-13). If all these States had refrained from touching their monetary regulations after 1870, a formidable fall in silver, perhaps slightly less, perhaps not so rapid, would nevertheless have taken place.

This fall in silver had begun, though very slightly, after 1867. The author of the report for the Monetary Investigation for that year in France, noticed the decline and its causes which were the enormous increase in the production of silver and the distaste of well-to-do people for the metal (see p. 32.). In 1871 and 1872, before Germany had commenced to demonetize its silver money, the decline had become very marked.

The measures adopted by Germany, the Scandinavian States, Holland, and then by the Latin Union might have precipitated the fall in value; but the enormous increase in production tended to make it more and more pronounced. The average quantity of silver produced which was only 780,000 kilos (1,820,800 lbs.), in the period from 1840 to 1845, exceeded 1,340,000 (3,127,000 lbs.), in the period from 1866 to 1870 then about 2 million kilos (4,700,000 lbs.) from 1871 to 1875, and 2,450,000 kilos (4,718,000 lbs.), in the period from 1876 to 1890, having tripled since the decade 1840 to 1850, although the commercial value of silver had singularly fallen. Finally, in each of the years 1892 and 1893 the annual production of silver was nearly 5 million kilos (12,000,000 lbs.), or nearly six times the average production from 1840 to 1850, and although silver had lost commercially 40 to 45 per cent. of its value at the same time. Such a formidable increase in production is sufficient to explain its fall.

The artificial measures taken after 1878 by the United States largely compensated for the closing of the European mints. We have already seen that the United States government, under the regime of the Bland Act, from the 28th February, 1878 to the 13th July, 1890, bought the enormous sum of 291,272,018 ounces of silver — a monetary value of about 1 milliard 860 million francs ($372,000,000), according to the Latin Union tariff about 150 million francs ($30,000,000) a year — and that in the shorter period from July 14th, 1890 to 1st November, 1893, under the regime of the Sherman Law, the American Treasury bought the relatively more colossal sum of 168,674,682 ounces. — representing, according to the Latin Union tariff, a sum of 1 milliard 80 million francs ($216,000,000) or for these three years and three months and a half an average of 325 million francs ($65,000,000) of silver a year.[45]

To this energetic and artificial maintenance of silver by the United States add, besides the monetary consumption of the same metal in the countries of Central and South America, and in some southern European countries, for example, Spain, the heavy exportations of silver for the countries of the Far East. The exportations of silver from the port of London alone to India, China and the Straits in the period from 1881 to the end of September, 1893, reached 439,533,590 dollars — or an average of more than 100 million francs ($20,000,000) a year. These 439 million dollars are thus divided: for India, 316,294,227 dollars; for China, 33,148,159 dollars; for the Straits, 90,091,203 dollars.[46]

This enormous sum absorbed in less than twelve years by the countries of the Far East was very unequally divided over this period from 1881 to 1893. It was much more considerable over the last five, than over the first seven years. In 1889, 1890, 1891, 1892 and 1893, if we reckon this year as complete, and if we add a third to the figures set down for the first nine months, we reach a total of 213 million and a half dollars in round numbers for the silver exportations from the port of London to India, China, and the Straits — an average for each of the five years of 44 million dollars. We must add that these figures do not seem to represent the entire exportation of silver from occidental countries to the Far East. Indian statistics show far greater silver imports than that given by British statistics in its record of silver exports to that country. While the latter give only 148,165,500 ounces as exported to India in 1888, 1890, 1891, 1892, and the first nine months of 1893, and adding to it the year 1888, an exportation of 169,327,000 ounces for six years and nine months, the Indian figures of net imports show that for five years only, namely, from 1888 to 1889 (the Indian financial year commences on March 1st), the far more considerable sum of 225,177,000 ounces; there is a difference of about 40 per cent. compared to English statistics.[47]

This difference is easily explained because India draws silver from other sources than the port of London. The United States exports silver to it directly; for example, in the financial years 1892-93, 520,000 dollars in silver East India bars and also 655,000 dollars in foreign silver coins.[48] From different ports in England, on the European Continent, and from other countries, exports of silver were assuredly made to the same country; accordingly we can, in conformity with Indian statistics, raise by more than half the figures for silver exports from the port of London intended for India, to reach the sum total of the metal absorbed by that country.

We are justified in doing the same for China and the Straits Settlements. The figures given above for silver exports from the port of London for these countries do not represent all they have absorbed. The United States, for example, sends directly to Japan and China considerable sums of silver in bars and in coin. We should notice that the first named country does not appear in the table of silver exports from the port of London given above. In the financial year 1892-93, especially, the United States sent to Japan 1,859,200 dollars in silver bullion, and 627,000 to Hong Kong, without counting another sum, not specifically mentioned and which is comprised in a heading: "Sent to China from Quebec or Ontario." In the same financial year, 1892-93, the United States also shipped 7,809,511 dollars of foreign silver coins, principally Mexican dollars to Hong Kong and 2,291,780 dollars in coin of the same kind to Japan.[49] It is certain that China, Japan, and the Straits receive silver also from other countries, either in bullion or in coin, notably from Russia, (which, while suspending the coinage of silver in 1870 for internal uses, kept it up to such an amount as might be required for trade purposes with China); from Australia also in payment of tea and other products.

We can, then, without any risk of exaggeration, obtain the total amount of silver absorbed by countries of the Far-East, adding 50 per cent. (perhaps even this is not enough,) to the figures reported in the British statistics relative to the export of silver from the port of London alone destined to India, China and the Straits.

As these statistics give for the five years, 1889, 1890, 1891, 1892 and 1893, a total of 213 millions and a half dollars, by increasing it 50 per cent. for the reasons already given, we have in round numbers the sum of 320 millions dollars, representing the approximate absorption of silver metal by the Far East in the quinquennial period from 1889-1893, or 320 million francs as yearly average ($64.000,000).[50]

If we now remember that in the period of the application of the Sherman Law (from 14th July, 1890 to 1st November, 1893,) the American treasury bought or stored in its vaults an average of 325 million francs a year ($65,000,000), we have a total average of 655 million francs ($131,000,000) absorbed by the countries of the Far-East and the American treasury annually. These figures ought to be raised in a certain degree, if we wish to have the monetary value, at the Latin Union tariff, of these two outlets for silver (the one natural, the other artificial). It is possible, indeed, that a fraction, at least, if not the whole of the silver exported from London to the Far-East, was reckoned by commercial and not by monetary value. If this is true, our argu-

ment will be strengthened; perhaps this system of calculation would partly explain (for other causes exist) the great difference between the facts given by the English government relative to English exports from London to India and those given by the Indian government for silver imports, silver being reckoned always in India according to its monetary value.

In any case, the American Treasury and the countries of the Far-East absorbed in the three years, three months and a half, during which the Sherman Law was in operation, at the lowest figure, 655 millions of silver ($131,000,000) a year. This enormous absorption did not prevent silver from falling nearly 25 per cent. from 1890 to 1893, before the repeal of the Sherman Law and the closing of the Indian mints. It is true that the annual production of silver in 1892 and 1893 exceeded the monetary value of 1 milliard of francs ($200,000,000); but, on the other hand, there was always a certain amount of silver being coined in other countries besides the United States and the Far-East. It would be difficult to make a correct computation of this coinage, because often it represents, in part at least, the recoinage of already existing money. American statistics value at 135 million dollars in round numbers the silver coinage of the world in 1888, at 138 million and a half dollars in 1889, and at 149 million and a half dollars in 1890. Two-thirds of this enormous quantity of new silver money represents the coinage of the United States, of India, of Japan, of Hong-Kong, silver consumptions which have already been included in the calculations made relative to the absorption of silver in the United States, and by the Far-East. Another very considerable fraction of the world's silver coinage, namely, $26,658,000 in 1888, $25,294,000 in 1889, and $23,081,000 in 1890 is formed by the coinage of Mexico, and consists of the celebrated Mexican dollars which are used all over the Far-East. This fraction has been included in the preceding calculations. But there still remain about 10 to 15 million dollars to represent the annual coinage of silver (recoinage being deducted), that has been made and has remained in the different countries of Europe and South America; for example, Peru in 1888 coined $3,258,000 in silver; in 1889, $2,842,531, in 1890, $2,842,530; Bolivia in 1888, $1,763,000; Spain in 1888, $4,710,000, in 1889, $4,710,000, in 1890, $1,479,000; Portugal in 1888, $1,533,000, in 1889, $680.000, in 1890, $540,000; again, Columbia, Venezuela, Brazil, Equador, Costa Rica, Haiti, in the sum total of silver coinage are entered for small quantities, sometimes one year, sometimes another. Certain great European countries are on the list for considerable sums; Austria-Hungary for $5,516,000 in 1888, $4,528,000 in 1889, and $3,857,000 in 1890; England for $3,681,000, $10,827,000, $8,332,000 respectively in the same three years. Even admitting that in these states there was largely a remelting of old coin in process, there can be no doubt that a certain quantity of new metal was used, if only to re-establish the coins to a correct weight.[51]

In estimating at 10 millions of dollars only the average absorption of silver in these last years by the coinage of countries other than North America, and the countries of the Far-East, not reckoning the fraction of Mexican or Peruvian dollars destined for these countries, we should not be far from the truth. We have seen that the American Treasury and the countries of the Far-East absorbed during the period of the Sherman Law (July 14, 1890 to November 1, 1893), about 655 millions of silver ($131,000,000) a year; by adding the above figures 50 millions ($10,000,000) to this, we get a yearly sum of 705 millions ($141-000.000.

How does it happen that silver, while having by the purchases of the American Treasury, by exportations to the East, and by the coinage necessary to European and American countries an outlet for more than 700 millions a year ($140,000,000) in recent years, has fallen in value from 15 to 18 per cent., from 47½ pence (95¾ cents), the standard ounce in 1890 to 41 (82 cents) in 1893, before the closing of the Indian mints and before the repeal of the Sherman Law, at a time when its average production during the same years did not exceed 1 milliard francs ($200,000,000)? The reason is that silver metal has few industrial uses; it has ceased to be esteemed, at least by western people, as a metal associated with luxury. Being then no longer a precious metal as a merchandise, its commercial use, at least in the Occident, is very limited and does not increase.

A Metal can only be Regarded as a Precious Metal when It is in Great Demand for Industrial Uses. The Commercial and Artistic Decline of a Metal leads to Its Monetary Decline —If silver had continued to be treated in the private life of people, at least among Occidental people, who are alone the rich people of the world, as a precious metal, artistic and decorative uses would have easily absorbed each year the 200 or 300 million francs ($40,000,000 or $60,000,000), which remained in excess of the quantities of silver purchased by the United States, exported to the East or coined by some country of Europe or South America. But the industrial and artistic uses of silver are limited and do not increase, since European people despise at present this metal of pseudo-luxury, which has, besides, many

rivals of cheaper price, nickel, aluminum, etc. While gold has an enormous industrial and artistic market, silver in Europe and America has almost none. Its industrial and artistic decline preceded and caused its monetary decline. A metal can no longer serve as money in the real sense of the word, when, besides its monetary function it has not maintained as a merchandise, and especially as an object of decoration, art, and adornment, its attractiveness, its use and its elevated price. When this situation is withdrawn from it by the free judgment of the public, its fate is sealed; it can be nothing but token money, a representative sign. This is the basis of monetary theory.

The following information is complimentary to the subject: In the year 1890 the value of precious metals employed in industrial uses in the United States were 18,105,000 dollars of gold, and 9,231,000 dollars of silver according to the American monetary rate. But if, instead of taking the monetary rate which was 30 per cent at least above its commercial value, we took the latter, we should have an industrial employment of 18,600,000 dollars of gold and 7 to 7½ million dollars of silver. A part of the gold and silver thus employed was furnished by the remelting of old objects made of precious metal or even coin.[2]

There are of course always some uses for silver in the arts, and the great fall in its price can develop its employment in them to a certain degree, particularly for plate. But there is no chance of silver having a market in arts of any kind as vast as gold has, whether we consider it in relation to the quantity produced, or as value annually absorbed by these employments.

Accordingly, silver seems a metal under a social cloud; it cannot serve as money any longer in the real sense of the word, except in the countries of the Far-East and in poor countries where there is still a demand for it as merchandise, and as an object of adornment and decoration.

CHAPTER II.

THE INFLUENCE OF THE DEMONETISATION OR SUBORDINATION OF SILVER ON PRICES FROM 1873 TO 1894. INTERNATIONAL BI-METALLISM.

Pretention that the demonetisation, in certain countries, and the universal fall of silver, have been the causes of the fall of prices since twenty years.

Nature and measure of the fall of prices in the last half century.

The inconveniences of monetary systems based on different metals in countries that have close commercial or financial relations.

International bi-metallism.—Its realization would place all of the members of the compact under the actual system of a single standard in the more depreciated metal. In present circumstances, it would restrict the production of gold and would cause gold coin to be melted.

THE PRETENTION THAT THE DEMONETIZATION, IN CERTAIN COUNTRIES, AND THE UNIVERSAL FALL OF SILVER, AS WELL AS THE SCARCITY OF GOLD, ARE THE CAUSES OF THE FALL IN PRICES IN TWENTY YEARS. Many writers admit that the demonetisation of silver which has taken place in most civilized countries, and the ensuing decline in its value along with the reduction in the gold produced in the period from 1876 to 1892 are the causes of the fall of prices that has occurred in the majority of objects of merchandise in the last twenty years.

It is certain that a majority of products have fallen in price since 1874. It is necessary to recall, however, that the years 1873–74, at the close of the Franco-Prussian War which had interrupted production and exhausted the supplies of Central Europe, witnessed a formidable rise in prices. Yet, even if we go back a few years from 1866 to 1890 for example, we discover, in a very marked proportion, a fall in price of a great number of products, and not only in manufactured articles — a fall formerly regarded as normal — but also in natural products and provisions which a number of economists at the commencement and middle of the century (all the school of Ricardo and of Mill especially) considered as destined to a progressive rise in price.

Is the fall that has come about since 1874 due to the demonetisation of silver, to the decline in the value of that metal, to the scarcity of gold, to what is called monetary contraction?

A preliminary remark is in place here; if this were the cause the fall would be quasi-universal; as the quantity of money was not sufficient to carry on the mass of transactions at the former prices, goods of all kinds should have fallen in price in an almost analogous proportion. Now, we are very far from seeing this uniformity in the fall of prices since 1874. Considerable quantities of economic goods and among them very important ones have gone up in price; for example, wages (notably industrial wages), salaries (above all small and moderate ones), wages of servants, objects of art, artistic remunerations and professional emoluments, public funds and stocks. Add to these indigo and tobacco. Different articles of food have not fallen in price or, what is more, have risen in twenty years; coffee, fish, eggs, fresh vegetables, milk, etc. We confess that for certain classes of goods here cited there can be traced special reasons for the rise in price; but if we were face to face with a real and important monetary contraction, if the quantity of money in existence had not been sufficient to carry on, at the former scale of prices, the volume of business, it is certain that numerous classes of important articles could not have risen in price. Again, certain other economic goods, equally important, have not yet changed; for example, house-rents, at least up to the present (1894), have not gone down despite the enormous buildings constructed; it seems likely that rents will fall, but this decline will be due to other causes; fall in rate of interest, extravagance of speculation in real estate, etc.

We are not dealing then with a general decline in prices, but in a decline affecting certain articles, very numerous it is true, manufactured articles, objects of primary use, and articles of food.

A second remark comes up here and is equally appropriate to this connection: the general rise in prices that proceeds from monetary contraction ought to show itself when the quantities of articles produced have not been increased to any extent. If they have been increased very considerably, it is more reasonable to explain the decline in prices by the notable increase in production than by a pretended monetary contraction.

Now, for nearly the whole sum of articles which have fallen in price there has been an enormous increase in the quantities produced and disposed of among civilized nations; this holds good for coal, iron, steel, the majority of metals, wool, cotton, for the generality of food products; wheat, maize, other cereals, butter, cheese, cattle; it would be superfluous to go into long statistical details on the subject. Some examples will be enough. According to an official English statistical document, the production of coal from 1851 to 1891 in the United Kingdom went from 98 million tons to 185 million tons, in Germany, in the same period, from 28,500,000 to 94,000,000, in France, from 11,600,000 to 19,600,000 and in Austrian Cislethania, in the shorter period from 1876 to 1891 (anterior figures not furnished) from 11,000,000 tons to 25,376,000. This document does not mention other countries. In this interval, then, the coal production of these five countries rose from 162 million tons to more than 350 million. In the same time, the progress of machinery considerably diminished the quantity of coal necessary to obtain a certain power; on the other hand, some new rivals of coal have come into existence, either as motive power, or as a source of light and heat, petroleum, electricity, etc.[3]

The production of pig iron has grown in far greater proportions: from 1866 to 1891, in the United States, it went from 1,205,000 tons to 8,279,000, and in Great Britain from 4,153,000 to 7,406,000 tons having nearly tripled for the total product of the two great producing countries.[4]

It is the same for nearly all articles. The production of beet-root sugar in Russia, during the period from 1871–72 to 1887–88, rose from 5,954,000 pouds (a poud = 16.3 kilos = 37.50 lbs.) to 23,775,000, a fourfold increase; in Holland, from 1871–72 to 1891–92, it rose from 15,158,000 kilos to 58,056,000 (36,000,000 lbs.—136,000,000 lbs.); in Belgium, from 68 million kilos in 1872 to 150 million in 1891 (149,000,000 lbs.—350,000,000 lbs.); in France, from 439,168,500 kilos in 1875–76, it rose to 615,242,000 kilos in 1890–91 (1,050,000,000 lbs. — 1,470,000,000 lbs.); in Germany, from 291 million kilos in 1873–74 it went to the colossal figure of 1,284 million kilos — more than four times as much — in 1890–91 (700,000,000 lbs.— 3,000,000,000 lbs.) In Austria-Hungary the quantity of sugar obtained is not given, but only quantities of beet root; this has almost doubled from 1878–79 to 1888–89, going from 30,926,000 metric quintals to 63,284,000. Now we know that in this interval by the improvements in the manufacture of sugar, as well by progress in its cultivation 25 to 30 per cent. more sugar is obtained from the beet root than formerly. Keeping to these figures we perceive that in the great producing countries of Europe the production of beet-root sugar from 1811 to 1891 has about tripled. Tropical countries have not stopped exporting enormous quantities of sugar-cane in competition with beet root sugar.[5]

Passing on to cotton, the quantities exported by the United States have risen from 635 million pounds in 1850 to 1,767 million in 1860, then

fell to 958 million in 1870 after the abolition of slavery and rose to 1,260 million pounds in 1875, then reached the colossal figure of 2,907 million pounds in 1891, an increase of 140 per cent. in the last 16 years, although the United States kept for their own factories far larger quantities of cotton than ever before.[6]

Wheat shows the same characteristics; the quantity of wheat produced in the United States rose from 292 million bushels in 1875 to 611 million bushels in 1891, having thus more than doubled in these sixteen years, which caused the exportation of American grain to go from 20,564,000 bushels in 1867 and 76 million in 1875 to 227 million bushels in 1891, having tripled in this last interval. We only mention by name other great exporting countries like Russia, India, and the Argentine Republic.[7]

Wool presents the same phenomenon; the quantity of the article imported into England went from 409 million pounds in 1877 to 720 million in 1891.[8]

It would be tedious to follow this detailed treatment in the case of each article which could be carried on indefinitely. The fall in price of the leading articles of merchandise in the period from 1874 to 1893 coincides with an enormous increase in their production. It is chimerical to neglect the evident cause of the fall in price — the considerable increase in the supply in relation to the demand which only adapts itself to it slowly — to take up some purely hypothetical cause — the pretended monetary contraction.

A more prolonged observation does away with this last supposition; for every article which has considerably fallen in price we can discover a reduction in the cost of the production — a reduction which is due either to a general cause, influencing a great many objects at the same time, or to technical causes special to each of them.

A general cause at the bottom of the low price of many articles in the last fifteen or twenty years is the progress of navigation and the low rates of freight. This cause is responsible for the reduction by half, if not more, of the freight charges for the product of new countries; now freight takes a large part of the price of the articles that are carried to new countries. Another general cause of the reduction of prices, connected with the preceding one, is the opening up of new countries to cultivation, which is helped by the abundance of capital and the fall in the rate of interest.

Finally, technical causes special to each article; new chemical, mechanical, physical processes, better combinations of different classes of work, better equipped factories, and machinery have had a share in bringing down the price of many kinds of goods.

The great law production obeys, is the law of progress which, with some rare exceptions, tends to lower gradually the prices of all products.

It is one of the errors of the old-fashioned school of Political Economy (that of Ricordo and Mill) to consider that agricultural products are an exception in this law; this is not true, and the progress of agricultural science as well as the more methodical and better directed application of capital to cultivation, tend to lower the price of most agricultural products.[9] Ricordo's famous Law of Rent, or rather the consequences he deduced from it, only apply to countries where agriculture is stationary, which is far from being the case at the present time.

To pretend that the fall in prices from 1874 to 1893 is due to a monetary contraction resulting from the production of gold and the demonetization of silver in civilized countries, would not only be closing one's eyes to the most striking commercial phenomena, such as the enormous increase in production and in facilities for the transportation of the majority of the articles of commerce, but would be too a flat denial that there has been any industrial or agricultural progress in the world since 1874 to 1893.

The normal economic condition, all other things being equal, is the tendency to a fall in all prices except wages.

Nature and Measure of the Fall of Prices in the last Half Century. — It is interesting to note the changes in prices of the principal articles of merchandise from the period 1845-1850 to the year 1893-1894. Below are the results of a careful study on the subject by The Economist (London), whose especial competence and rigorous methods in matters of this kind are well known. It considers 47 articles, namely, for colonial and tropical food products: coffee, two varieties of sugar, rum, tea, tobacco, butter, which in England is classed as a colonial product as it comes, in part at least, from Canada; then food products that are half-native and half-foreign; wheat, potatoes, two qualities of beef, medium and first-class, pork; for primary manufactured products; silk, linen, linen thread, hemp, three varieties of wool, logwood, indigo, seal oil, olive oil, coal oil, lumber, leather, saltpetre, two varieties of brass, tin of iron, lead, steel, zinc, steamer coal, four varieties of cotton, cotton thread, two varieties of cotton stuff. This list is, as we see, very comprehensive; there is nothing left out of primary importance but wages; the sole criticism to be made is that, while recognizing the relative excellence of this method, there is a great inequality of importance between products put on the same level; for example, indigo cannot be regarded as important as wheat, nor logwood as coal.

Making this allowance, it appears from this list that of these 47 products, twelve have risen in price and thirty-five have fallen in the interval between 1845–50 and 1894. The twelve that have risen are: coffee (nearly doubled),[10] butter (increased nearly 40 per cent.), beef of inferior quality (risen 22 per cent.), beef of superior quality (risen more than 50 per cent.), mutton (both kinds gone up 50 per cent.), pork (risen not quite so much), silk (slightly risen), logwood (increase of 60 per cent.), and indigo (strongly risen), Canadian yellow pine (slightly risen), and ashes. All the other articles, including wheat, potatoes, sugar and a great many objects of primary use, especially those of large volume which are affected by cost of freight have fallen more or less considerably.

For some the fall is very moderate, as tobacco (about the same price), leather and one or two others; for metals, except zinc which has declined a little and especially lead the fall is enormous. In the movement of prices which, from 1845–50 to 1894 has caused twelve articles to rise, has left a half dozen with a very slight fall, while the thirty-one others have undergone a marked decline, it is impossible to discover any trace of a monetary contraction. The articles which have risen, or have only slightly changed are those whose production can not be extended easily and whose cost of production (including freight to the English market), has not been lessened by new processes. The articles on the contrary that have declined considerably, are those which we discover have been produced in enormously increased quantities, and whose cost of production or final price on the English market has been diminished by the influence of new processes, either general (as the lessening of freight charges, above all sea freights), or peculiar to each article.

If, instead of taking the period 1845–50 as a starting point, we take the year 1870 or 1877 or 1880 the same phenomenon is revealed. We do not find in the movement of prices in these 47 articles an identical progression warranting us to attribute their evolution, so diverse in other respects, to a scarcity of money. With regard to 1870 eight out of 47 increased in price in 1884, namely, coffee more than 30 per cent., tobacco to a considerable degree, four qualities of butcher's meat about 18 per cent., indigo 7 per cent., tallow 3½ per cent; all others have fallen since 1870, some very slightly, as leather (7 per cent.), others by half as lead, or more than half sugar, cotton, etc.

In relation to 1877 the decline on January 1st, 1894, was more general, the years following the war 1870–71, being years of a marked rise. Yet even in relation to 1877 we find that some articles have slightly advanced in price; mutton, especially the medium quality, logwood,

tallow of St. Petersburg, ashes; some others have had a slight decline from 1877 to 1894; coffee, whose principal varieties were selling from 86 to 94 shillings ($21.50 to $23.50), the centner in 1877 sold in 1894 for 80 to 95 ($20 to $24); beef, inferior qualities costing 44 to 52 pence (88 cents to $1.04) the 8 pounds in 1877, cost 43 pence (86 cents) in 1894, while the superior kinds are unaltered; pork has only slightly declined; steamer coal, in January, 1894, was worth 10 shillings 6 pence ($2.62) a ton, instead of 11 shillings 4 pence ($2.81) in 1877, which is a fall of 9 pence (18 cents), or 6½ per cent. only; zinc, is worth in 1894 £79¾ ($398) a ton in January, 1894, instead of £8 ($405) in January, 1887, where the fall is only 2 per cent. The other articles have fallen in appreciable proportions, very considerable for some; but the causes of this fall are easy to establish, extension of cultivated surfaces, virgin land not needing fertilizers, agricultural progress, discovery of new copper, lead and iron mines, progress in manufacture, fall in sea freight. In the very divergent movements of these different articles, some continuing to rise, while others remain almost stationary, and while the majority are falling very unequally in price, it is impossible for an attentive observer to discover the action of one all-powerful cause like the scarcity of money.

The Economist has applied to the above-mentioned products the method of the Index Number; after grouping similar objects, as the different qualities of cotton, of butcher's meat, of lumber, etc., it forms in this way 22 groups of merchandise whose prices in the period 1845–50 are indicated, for each group, by the figure 100; these 22 groups give as the expression of their total price in the period 1845–50 the Total Index Number 2,200. In 1857 the same total figures of the 22 groups reaches 2,996, a rise of more than 35 per cent.; in 1870 this total figure is no more than 2,689; in 1880 it is 2,538; in 1883, 2,342, 1886 it falls 2,023; it rises gradually up to 2,259 on July 1st, 1890, then falls again to 2,081 in 1892, advances to 2,120 on January 1st, 1893 and declines to 2,082 on January 1st, 1894.[11]

These facts show that on January 1st, 1894, the total price of the products under review was only 5 per cent. below the price of the years of the period 1845–50; on the other hand, that the fall in prices commenced before the depreciation of silver, since the Total Index Number or the total price of these same products was in 1870 more than 10 per cent. below that of 1857. Besides the extreme point of the decline was in January, 1886, when the Total Index Number for these 22 groups was only 2,023, instead of 2,689 in 1870, an average decline of about 24 per cent. After January, 1886, there has been a general rise in the total

price, and in January, 1894 the Total Index Number was 2,082 instead of 2.023 in January, 1886, and 3,059 in January, 1857; that is there is a total rise of 2.42 per cent. in relation to January, 1886, and a total rise of 1.11 per cent. in relation to January, 1887.

If the demonetisation of silver and its decline are the determining causes of the fall of prices since 1870, this fall in prices ought to have been very marked from 1855 and 1856, since after this period the fall of silver has been precipitous. The standard ounce which at par is worth 60.8 pence ($2.16) in gold, was quoted at London in 1885, 48.50 pence (97 cents), and in 1886 45.20 pence (91 cents), losing then 20 to 25 per cent. of the value given it by the mints; at this time we have just seen that the minimum price was reached according to the Index Table Numbers given above.

In 1893, the fall of silver became much more precipitate; during the first half year silver was worth only 38 pence (76 cents), and in January, 1894, it fell to 30 pence (60 cents), a fall of 7 pence (14 cents), or more than 15 per cent. in the first half of 1893, relatively, to the first half of 1886, and 15 pence (30 cents) or more than 30 per cent. in January, 1894, relatively to the same year. The prices of the total sum of products having slightly advanced, according to the Index Number, from January, 1886 and January, 1887 to January, 1894, despite the colossal fall of silver in the same interval, is a proof that the fall of silver was not the regulating phenomenon of prices, and the determining cause of their decline since 1870 or 1875.

If we considered salaries, servants' wages, incomes, rents, in the list of prices under review (as we should), we should see that the general decline from 1870 or 1875 would be singularly lessened, for the total sum of wages of servants and salaries of employees, despite some exceptions that can be explained by particular circumstances, has advanced greatly from 1870 or 1875 to 1894; in certain occupations, as for example, in mines, the rise has been 20 to 30 per cent. The recent publication of the Labor Bureau gives unfortunately no comparative or retrospective table, but it is enough to go through it and see the prices given with the duration of work, to be convinced that there has been a rise and not a fall of wages in the interval. In comparing it with previous documents, we discover invariably a rise, occasionally an enormous rise [12]

It is very curious, particularly in the very numerous organizations connected with house-building at Paris, foundation and well-diggers, masons, floor-tilers, carpenters, slaters, cabinet-makers, locksmiths, painters, glaziers, etc., that in this period of the demonitisation of silver, of pretended monetary contraction, and so-called fall in prices, wages have risen from 20 to 40 per cent. from 1875–76 to 1891.

Nothing profoundly abnormal then took place in the period from 1870 or 1875 to 1895. Some articles whose production as a result of different agricultural, industrial or social improvements, became more abundant and less costly, have fallen in price; other articles have remained or even risen. Finally, wages, salaries as a whole, have risen and sometimes very perceptibly. This double direction is conformed to the general tendencies of civilization at a time of progress.[13]

THE INCONVENIENCES OF MONETARY SYSTEMS BASED ON DIFFERENT METALS IN COUNTRIES THAT HAVE CLOSE COMMERCIAL OR FINANCIAL RELATIONS. — One subject brought up in all the discussions caused in the last twenty years by the depreciation of silver and its relegation to the rank of token money, is still worth attending, namely, the inconveniences offered by the existence of monetary systems based on two different metals in countries that have close business relations either commercial or financial.

The relations of Europe and America with India and the countries of the Far-East or with Mexico, are certainly subject to a greater risk since silver, on which the circulation of these latter countries is based is open to constant and considerable fluctuation, while England and Germany in law and in fact, France, Belgium and Switzerland in fact, have gold as the actual basis of their monetary systems.

Business on credit beween countries using different metals as money involves more uncertainty. A Lyons merchant buying silk in Japan, or an English merchant ordering tea from China or India runs the risk of seeing the article procured in these distant countries sometimes advance or decline in the place of production, in a very perceptible degree from the simple rise or fall of silver, even before his goods have time to reach Europe. Large supplies of these articles in European countries become more dangerous to handle — orders in great quantities are impossible for prudent merchants. They have as it were to scale their purchases, to provide against a sudden, heavy decline, and they have to fix their sale price, wholesale and retail, on the average of the successive purchases they have made in order to avoid having large quantities on hand.

This situation offers especial danger when, as a result of legislative measures, the rate of the metal used as money by the country with which one has commercial relations varies from day to day. These sudden variations have taken place twice in the last half-dozen years, under such circumstances, in a tremendous proportion. The first time, when in the month of July, 1890, the United States Congress voted the Sherman Law which doubled the obligatory monthly purchases by the Amer-

ican Treasury; in the month of February, 1890, an ounce of silver at London was worth 44⅝ pence (99.2 cents) at the highest, and 43⅝ (86.5 cents) at the lowest figure; in the month of April it was still worth 43⅞ pence at the lowest, but on the news of the plan laid before Congress it was 48 pence (96 cents) at its highest figure; in the month of June of the same year it was quoted at 46½ pence (93 cents) at the lowest and 49 (98 cents) at the highest; finally, in the month of August, its lowest figure was 50¾ pence (101.5 cents) and its highest 54½ pence (109 cents); it was the same in September, and the decline recommenced after October. Accordingly, from the highest quotation in February — 44⅝ pence (99.2 cents) to its highest quotation in August of the same year — 54½ (109 cents) there is a difference of about 22 per cent., and from its highest figure in June — 49 pence (98 cents), to its highest in August two months only, there is more than 11 per cent. difference.[14]

Fluctuations of the same nature, almost of the same size, took place with still more suddenness in 1893. From July, 1892, to June 23, 1893, the lowest price of an ounce of standard silver in London was 37 9-16 pence (75.1 cents). "On June 24, rumors spread in London and in New York that India intended to close her mints to silver. At this date the quotation at London was 37½ (75 cents) and at New York 82 cents; on June 26 it was definitely announced that the Indian Council had adopted a measure closing the mints to deposits of silver for coinage on private accounts. The London quotation was then 36 pence, equal to 0.784 dollars for an ounce of fine silver, and at New York it was 0.780 dollars. A rapid fall took place from day to day until June 30, the price at London fell to 30½ pence, equal to 0.664 dollars an ounce of fine silver, and at New York the price quoted was from 67 to 65 cents." So from June 23 to June 30, 1893, in eight days, the price of silver both in New York and London went from 37½ pence or 82 cents to 30½ pence, or 63 cents, that is 20 to 22 per cent.[15]

It is plain that sudden changes as formidable as these disconcert the calculations of business men, and add a dangerous risk to their operations; accordingly, they are forced, not precisely to restrain them, but subdivide and scale them, which is a different thing.

It must be noted, however, that these sudden and enormous variations, both in 1890 and 1893, proceeded from legislative measures, and do not in any way represent the habitual fluctuations of the value of money in countries with independent systems and resting on different metals.

Do oscillations of money of the last kind and the variations of the relation of the money of one country with money of another country, doing business with it, lead necessarily to a restriction in the business between the two? Experience does not prove this; it is a burden but not an insurmountable one.

Mr. Goschen in his celebrated work, "The Theory of Foreign Exchanges," of which the first edition appeared in 1861, that is, at a time when the international money market enjoyed a relative calm, remarks that "every operation of international trade is complicated with an operation of exchange;" every business man buying or selling in a foreign country, while he is operating on a fixed article, is concerned also indirectly with the value of money, which he is to pay to receive in payment. The second matter has always been a delicate one, and has sharpened the wits of people engaging in it. In the preface of the 2nd edition of his work, in 1863, Mr. Goschen writes, "The history of foreign exchange, during the last few years, is a history of revolution." Business was never stopped by this unfortunate complication of an operation of exchange connected with an operation of trade. The result was only that international business had to be carried on by more special and more careful men, ordinary brokers being obliged to bow down before what are called arbitrage brokers.[16]

In fact, at no epoch, did England's commerce with India show as much stability and regularity as in the period 1877–1891, which was characterized by the enormous change of the ratio of value between gold, the base of the English monetary system, and silver which performed the same function in India. The Indian imports in England, rose to £31,224,000 in 1877, £27,470,000 in 1878, £24,698,000 in 1879 and £30,117,000 in 1880, a total of £113,509,000 for four years; during these four years the fall in silver was slight (see pp. 19–20); they are £30,763,000 in 1888, £36,199,000 in 1889, £32,668,000 in 1890, and finally £32,234,000 in 1891, or a total of £131,864,000 for these four years, more than 18 million pounds more than the first; now during this period silver was far lower. In the comparison between the four years 1888–1891 and the four years 1877–1880 we can discover no profound disturbance; there was a gradual growth and development of trade and its growth exceeds that shown by the figures of value alone; prices having fallen, the quantities of Indian goods imported into England was considerably more important in the period 1888–1891 than in the period 1877–1880. The same thing appears in English exports to India; there were in 1877, £36,618,000; in 1878, £24,659,000; in 1879, £22,714,000; in 1880, £32,028,000; total for four years, £106,091,000. At this time silver was slightly falling. In the four years 1888 1891, when the decline in silver was far greater, English exports to India rose to £33,905,-

000 in 1888, £32,429,000 in 1889, £35,230,000 in 1890, and £32,449,000 in 1891; total for four years, £134,113,000. The considerable fall in silver did not prevent the regular development of English trade with India in both directions, as well in imports as in exports.[17]

The reason of this is, that in international trade, whenever the government does not intervene as a disturbing influence, with large loans or important orders for public works and war purposes, products are paid by products and equilibrium naturally takes place between exports and imports, without the intervention of money, at least in a permanent and preponderating manner. When this equilibrium is not spontaneously produced it is because the government is disturbing the natural mechanism of exchange, either by badly planned loans or by arbitrary orders for public works or armaments, or in some other way. Trade can be carried on in a regular manner and can develop, both as regards exports and imports between countries under independent monetary systems resting on different metals, in spite of the changes in value between these metals, provided the government does not exert a disturbing influence as borrower from abroad.

Another remark can be made on the obstacle of business relations between two countries with discordant monetary systems, based on different metals, whose ratio of value is exposed to change. Investments of capital of one country or the other are made more difficult. English capitalists for example, hesitated to invest money in India for railway extension or factories, or simply to carry trade along. Again, as a result of the disturbance of monetary systems and especially from the difference of metals at the base of them in two countries having business relations with one another, it can and must happen when a fall of one metal is expected, that the merchant of the country having the other metal as their standard hesitate to give long credit, as their custom is, to their correspondents in the other country. Instead of granting one or two years for settling accounts they are obliged to insist on cash.

All these observations are correct; but these inconveniences do not stop business, although they compel a certain amount of precaution in its transaction. Capitalists of the country with a non-depreciated metal can make long term loans in the country under the depreciated metal, only they have either to stipulate the payment of interest and capital in their own metal, in gold, for example, if they are English capitalists loaning money in India, or to demand a higher rate of interest which is really a premium to cover a part of their risks.

The obligation of paying in a foreign country in a metal other than one's own national standard is undoubtedly a complication, sometimes a

surplus charge: This is the case of India for the last twenty years; she has not only to send to England the interest on an important debt, stipulated to be paid in gold, but also numerous pensions of former Anglo-Indian functionaries. It of course is a rare condition of things for a large country to have innumerable pensions to pay outside. But if the financial condition of the country is slightly aggravated by it, it is hardly the cause of profound and incurable disturbances when the general financial administration is conducted with economy.[18]

We must add that the world has rarely seen such a profound change in monetary value as what has caused the depreciation of silver by nearly 60 per cent. in twenty years. A future fall of like importance is hardly possible and besides the actual depreciation to-day of 60 per cent. would not have been produced on such a scale had not the United States, on two occasions, by artificial and inconsiderate measures — the Bland Act in 1876, the Sherman Law in 1890 — raised the hopes of silver mine owners and helped to enormously increase its production, and if on the other hand different European governments by uniting in a series of conferences for the rehabilitation of silver had not contributed to keep up these illusions.

Once abandoned to itself; to its monetary use in the East, and in the primitive people's of Africa; to its position as token money among civilized people, to the industrial outlets, which, while not very considerable are not insignificant, and can be gradually extended, if different states do not overtax the metal.—France, by an extravagant stamp tax of 20 francs a kilo ($4 for 2.3 lbs.), more than 20 per cent. of its value, and England by its tax on plate — we should see silver settled at an almost stable value by the untroubled and natural order of things. No matter what this value was, the important point would be relative stability which simply means there would be no fluctuations of 10, 15, or 20 per cent. in value during a few months.[19]

It is impossible to decide to what price silver should fall to reach a value that would vary only a few points in the course of some months or a year. There is a special difficulty in making such a calculation because silver is not always produced by itself; it is often combined with another metal, with lead for example, brass or even gold. The respective value of two or three different objects, naturally combined in the process of production is regulated by intricate rules; yet it is clear that any definite fall in silver must tend to limit its production by closing certain mines that either produce silver alone or produce it in combination with other metals. Moreover, the result will be that in mines producing ore combined of lead and silver, the two metals will be separated in

smaller quantities, since this separation, being a costly process, cannot be profitable when silver goes below a certain price. If the value of silver fell to 18 or 20 pence (36 or 40 cents) an ounce, the disturbance produced by this fresh drop, would be much less than what resulted from the fall from 61 pence (1.22 cents), or 60.8 pence, the monetary par of the Latin Union, to 27 pence (54 cents). It is impossible to predict whether other industrial uses may not develop for silver after it has declined to a certain extent for a fixed period, and cause it to regain some of its value.

Without denying that the enormous instability of the price of silver in twenty years, exaggerated by governmental resources, has brought trouble and friction in international relations, not only in exchange and in the settlement of accounts between silver standard and gold standard countries, it has been proved that these results were much less than the adversaries of the monetary subordination of silver contend.

In any case, these inconveniences are nothing compared to those resulting to civilized people from a monetary system, based on a metal which can be produced to an enormous extent at very small cost, which would clog all the channels of circulation, which would be a burden to our business traditions and to settlements of debts, which would bring inflated and unsettled prices, and which would besides drive away from circulation our gold, thus depriving the civilized world of the most convenient and most stable money, to inflict upon it the most inconvenient and unstable.

INTERNATIONAL BIMETALLISM — ITS REALIZATION WOULD PLACE ALL OF THE MEMBERS OF THE COMPACT UNDER THE ACTUAL SYSTEM OF A SINGLE STANDARD IN THE MORE DEPRECIATED METAL. UNDER PRESENT CIRCUMSTANCES, IT WOULD RESTRICT THE PRODUCTION OF GOLD AND WOULD CAUSE GOLD COIN TO BE MELTED.[30] — A certain number of people fancy they have made a great discovery by substituting the plan of international or universal bimetallism for national bimetallism. Surrendering themselves to superficial observation, they forget that the results of the one plan would be exactly the same as the results of the other; in the first case the entire world, in the second case a special nation would be on a single standard of the most depreciated metal; the entire money in the world, if these conditions were real, would be melted or hoarded in the first case, just as in the second case is done with the gold money of a country living apart from others under a complete double standard system.

The reasoning indulged in by the partisans of universal bimetallism

is childish. They acknowledge that bimetallism, that is the double-standard working under all its natural and legal conditions, — cannot be kept up effectively in a single country or in a limited group of countries, at least while a considerable alteration is taking place in the respective production of the two metals. For it happens that the one which has come to be produced at a smaller relative cost than formerly, decline in value on the bullion market. Under these conditions there is advantage in buying bullion in this depreciated metal to take to the mints of double standard countries, in coining it, in withdrawing by it the coins of the other metal from circulation that has not lost its value, in exporting these coins or melting them for the purchase of new ingots of the depreciated metal to start the process afresh without a break in its operation. The whole difference between the commercial and the monetary value of the two metals is gained, less certain deductions and expenses which we have given already in detail (p. 18).

The impossibility then of maintaining the double standard, under conditions allowing its complete realization in a single state or in a limited group of states, while other important states are under a single standard, some of gold, others of silver, is almost a recognized fact everywhere.

On the contrary, many people think that an international understanding either between all the countries of the world, or at least between all the great countries, the nations of Europe and America, will be sufficient to establish in a stable fashion the respective value of the two metals. It is plain, they say, if all countries came to a common agreement on the matter, that no money would be exported between them. The money made of the metal that was produced more abundantly and at less expense could not drive out the money of the other metal. Where would it go to, since in every country the two metals were subject to the same regulation?

This reasoning is bad from two points of view. Gresham's Law would work as rigorously in this case as if the double standard were limited to one nation. International bimetallists forget (1,) that money can be driven away without being exported by being melted, and by being used for industrial purposes, so that gradually the money of one metal will no longer remain in circulation. (2,) That metallic mines not treated by monetary laws according to their real value can and must, at length limit their output or be closed down. These two circumstances will bring the universal double standard to a single standard of the metal produced at smaller cost.

A little reflection proves the correctness of these propositions.

Suppose all the nations in the world agreed at the present time to establish among themselves the double standard on the basis of the ratio 1 to $15\frac{1}{2}$ or 1 to 17, 18 or any other artificial ratio between gold and silver. Immediately an immense influx of silver would take place. About 4 million and a half kilos (9 million lbs.) were produced in the last few years (1873 and 1893), when the ratio of gold to silver was 2 to 24, 25, 26, or even 27 and 28 and when the most discouraging uncertainties overshadowed the future of silver. It is unquestioned that the establishment of the universal double standard, even on the ratio of 1 to 20 would enormously develop the production of existing mines and would cause new ones to be worked. The production of silver would soon reach 10 million kilos (23 million lbs.), or more than 2 milliards ($400,000,000) in present monetary value according to the Latin Union tariff, and more than 1 milliard and a half ($300,000,000) at the rate of 1 of gold to 20 of silver. As industrial consumption employs a limited amount of silver, and since its rise would not increase its industrial employment, nearly all this silver would take the shape of money. In ten years there would be 15 milliards ($3,000,000,000) of new silver money: yet even this reckoning is under the probable figures. Instead of simply doubling, as a result of the opening of the world's monetary market the production of silver, owing to the abundance of the veins of this metal and the lessening of the cost of production could be tripled or quadrupled. The influx of enormous quantities taking the shape of money would raise prices; is it this result that induces a great many people to clamor for the monetary restoration of silver?

On the other hand, what effect will the rise of prices have on the production of gold. As it has not become easier to produce from the technical point of view — supposing the present technical conditions to remain the same — the rise in prices can only hinder it; machinery, buildings for it, handwork, salaries, all will rise as a result of increased cost of food. An increased price on the gold output will result. The poorer and less productive mines will have to be abandoned.

One of the causes of the increased production of gold since 1888, has been the opening up of the Transvaal, particularly the famous district of Wittwatersrand near Johannesburg. A German specialist, Schmeisser, sent by his government to the Transvaal, in a report on the economic situation of the South African Republic, published in 1893, estimates after considering only the most productive part of this district — the only part at present being worked — that the value of gold to be taken from a depth of 800 meters (2,500 ft.), will amount to 5 milliards 200 million francs ($1,040,000,000), while the next 400 meters (1,300 ft.)

will give 3 milliards 325 million francs ($705,000,000); but to reach this purely conjectural result, mining must be carried to a depth of 1,200 meters (3,800 ft.) At present regular mining has not extended below 100 to 150 (300–475 ft.) The production of gold in this district was 37,653 kilos (88,000 lbs.) or 107 million francs ($21,400,000) in 1892; 47,000 kilos (100,000 lbs.) 134 million francs ($26,800,000) in 1893: it ought to be about 180 to 185 million francs ($36,000,000–$37,000,000) in 1894. It is expected to exceed, if not in 1895, at least in 1896, 200 million francs ($40,000,000), and gradually reach 250 if not to 300 millions ($50,000,000 or $60,000,000), and keep at this level for 20 to 25 years.

The Transvaal mines, though, have only a small proportion of gold; one only, the celebrated Robinson mine, gives an average of more than one ounce of gold to a ton of conglomerate. Others among the paying ones only give a half an ounce a ton. "A proportion of 7.5 pennyweights a ton or even less is generally considered the limit of a reasonable working profit. Yet it is said that some mines, favored by quite exceptional conditions succeed in getting a small profit from 5 pennyweight a ton." The author of these observations remarks that under present conditions, most of the mines produce both decomposed conglomerate — that is, gold in a free state — and conglomerate non-decomposed — that is, gold allied with pyrites — and some even produce nothing but non-decomposed conglomerate. So that if the extraction of decomposed conglomerate diminishes, and if the production of the other variety increases, the expense of production will necessarily increase.[21]

The same remark has been made by another specialist in a book that has had a certain popularity (Die Zukunft des Silbers): "The Future of Silver," that appeared in Vienna in 1877, and often published since that date. The author, M. Edward Suess, professor in the University of Vienna, and an out and out partisan of the monetary rehabilitation of silver, maintains in his book that the future of the Transvaal gold mines is more limited than is generally believed, and states that the proportion of gold ore after having been 22.65 pennyweights a ton in 1888, fell to 19.50 in 1889, 13.64 in 1890 and 11.23 in 1891.[22] He explains this tendency by the more difficult nature of the veins the deeper the mining operations are carried.[23]

Without making any prophecy on the future of the Transvaal mines, brilliant in any case if economic conditions are the same, it is certain that the quantity of gold obtained in which the profit of the companies lies, is relatively small. Hardly any one of the hundred and some mines realizes as a net profit half of the gold they extract. Most of the good

mines with three or four exceptions at the outside, make a profit of a fourth or a tenth of their gold production. The result of these facts, due to an attentive observation, is, that after taking no account of the possibilities described by preceding specialists, a rise in price of mercantile products as a whole, by increasing to a fifth or a fourth, the cost of mining establishments, machinery, hand work, would do away with absolutely the profits of a great number of gold mines. Many would have to be abandoned.

What we have said of the production of gold in the Transvaal mines, after studying it with especial attention from the first, is true from other causes of most of the gold mines in the world. In nearly all, the quantity of gold produced that represents the profit is relatively small. In Guiana or Venezuela, countries which have directed our attention to the production of gold for some ten years, except during the prosperous times of the Callar mine in the latter country, only rarely does the profit amount to a fourth or a fifth of the whole production. In these countries in general, gold bearing quartz is richer than the Transvaal mines in precious metal, but the costs, due to fever, climate, want of labor and ways of communication are far higher. So true is this, that for some years (1891–1894) the famous Callar mine, while extracting ore containing an ounce and a half of gold a ton, can hardly pay its mining expenses without declaring any dividend. In Western Australia there are other difficulties, notably the lack of water.

The monetary restoration of silver and an international double standard, by considerably increasing the quantity of money and by causing a general rise of prices, will stop the working of a great number of gold mines. Capital will abandon these mines and will be put in silver mines. Instead of the production of gold reaching the sum of 750 to 800 millions (150 to 160 million dollars), and rising ultimately without doubt to a milliard (200 million dollars), if not more, it will decline by a half and perhaps eventually by three quarters.

If a universal double standard favoring silver at the expense of gold become an accomplished fact, then Gresham's Law — that bad money drives away good money — will operate in still another way. Gold has a double function, a monetary and an industrial one; it is used for jewelry, for ornament and for decoration. Gold, after the establishment of a universal double standard will be in great demand for this last function. As the production of gold mines will be diminished, there will not be enough for its industrial uses; gold will be in greater demand in jewelry, in objects of decoration than in money. Under this latter form it will not be given its due value since as money a quantity of gold will

be made equal to a quantity of silver costing much less to produce. The result will be that gold pieces will be melted to employ the metal they contain in articles of adornment, jewelry and decoration. According to the law of which we have already given a detailed accounnt (see page 15), gold has two uses, one as money for which under the double standard system, silver costing much less to produce, will be equally suitable. The other an industrial use, in which gold will retain all its superiority. Gold then, will be withdrawn from its monetary function and devoted to its industrial function.

Universal bimetallism, by favoring silver as money at the expense of gold, will have a double result: (1) It will considerably reduce the production of gold. (2) It will cause gold coin to be melted and transformed into articles of gold for jewelry, decoration and other industrial and artistic employments.

After a certain interval, the entire world will have no gold in circulation and will be under the silver standard pure and simple. It will be burdened by a money which besides having little value in proportion to its volume, is awkward and does not correspond to the conditions of a wealthier and easier stage of social life. It will end by proscribing as money a metal that is best suited for this function. Besides this, it will have caused a great rise in prices.

Accordingly, the idea of a universal double standard can be maintained by no better arguments than a double standard for a single state or for a limited group of states.

Whatever inconveniences are offered to business relations between countries under monetary systems based on different metals, they are much less than they would be under a pretended universal bimetallism that is nothing after all but a universal silver standard.

This transformation, besides, would not end in improving matters in countries where there is a high rate of exchange, due to a depreciated currency, like the Argentine Republic, Brazil, and Greece at the present time. Attention to the theory of credit proves that the condition of countries with a depreciated currency, — as these are we have just named, — is in no way due to scarcity of gold, but most serious and stubborn financial mistakes. If different nations adopted a good internal financial administration it would be easy for them — even for nations of the Far-East, like India — to reach a solid monetary circulation on a gold basis, for in a nation of normal condition, without the dangerous intervention of government under the form of enormous external loans and extravagant purchases, money only plays a limited part in international trade and the exchange of products ought to be regulated by themselves with the exception of payments of small importance.[21]

The prospect of gold being dispensed with completely by civilization, is very distant. We can reach by the use of more perfect methods of payment, made general by extension of credit, to a far greater economy in the precious metals, both in international and in domestic trade. Without ever being able to get along without metallic money the world by such improvements can perform a far more considerable volume of business than at present with half or a third, if not less, precious monetary metal without any rise in prices.

NOTES.

CHAPTER I.

1 The author refers to statistical tables printed in "The Treatise" vol. III, pp. 215 and 216.

2 The author's figures are in francs. I have placed after them their approximate equivalent in dollars, by dividing by five. For large amounts like these the percentage of error is considerable as strictly there are 5.18 francs in a dollar.

3 Let us recall the fact that there are three conditions for the real operation of the double-standard system; a fixed legal ratio between coins of the two metals, full power as monetary medium accorded to each metal, that is, any debt no matter how large, can be settled with coin of either metal, and finally, free coinage of both metals, with a seignorage duty not exceeding the actual cost of minting.

4 Origin of Bimetallism, by Theodore Reinach, 1893, p. 3.

5 Op. cit., conclusion, pp. 50 to 52. See author's "Treatise," vol. III, pp. 174–179, for his account of the monetary evolutions of the Greeks and Persians.

6 Roscher, Political Economy of Trade and Industry. 2d ed., p. 211.

7 Roscher, op. cit., p. 220.

8 Lord Mahon, History of England, cht. 9, p. 309, Ed. Tauchnitz, cited by Roscher, op. cit., page 211.

9 Roscher, op. cit., p. 211. Although the XVIIIth century as statistics show, belongs to the great silver age in the sense that the production of silver was notably in excess of gold, yet there was a time, from 1721 to 1780, when the production of gold perceptibly increased. Before the XVIIIth century, the average annual production of gold never reached during a period of twenty years, 11,000 kilos (26,000 lbs.); it rose to 19,080 (45,000 lbs.) in the double decade of 1721 to 1740, to 24,610 (56,000 lbs.) from 1741 to 1760, to 20,705 (46,000 lbs.), from 1761 to 1780, then after falling to 17,760 (39,000 lbs.) from 1781 to 1800 it still further declined and never rose to the figures of 1741 to 1760 until after the working of the Ural Mines about 1840. Soetbeer, Materials, etc., p. 7.

10 On the suspension of specie payments in England from 1797 to 1819. See author's Treatise on Science of Finance, 8th ed. vol. II, pp. 629–633.

11 Lauglin, in his edition of Stuart Mill, with notes, pp. 316–324.

12 Sydney Sherwood, Syllabus of a course of twelve lectures on the history of and theory of money, p. 43.

13 Lauglin, op. cit., p. 320.

14 Id., ibid, p. 321.

15 In 1873, the United States' Mint was authorized to mint on private account, or rather to put its stamp and devices on, what is called a Trade Dollar, which according to the correct and curious expression of the American writer, Lauglin, was not money at all, but a coined ingot, that is was no part of the monetary system of the United States. It contained 378 grains of fine silver, instead of 371¼ as the American dollar; it was supposed that the slightly higher weight of precious metal in this coin would benefit American commerce over its rivals; the Mexican silver dollar contained only 377¼ grains of silver, and the Japanese "yen" only 374 2-5. The United States' Government certified simply by its mark the name and weight of this commercial coin intended for export; owners of ingots wishing to have them minted were obliged to pay the expense of manufacture. The coinage of this money stopped in 1878 when $35,959,360 worth had been made.

16 Twenty-First Annual Report of the Directors of the Mint to the Secretary of the Treasury for the fiscal year ending June 30, 1893. Washington, 1893, p. 17.

17 A publicist, M. Edmond Thevy, who has lately written a book in favor of silver under the title of "The crisis in exchange, the fall of silver and its consequences," etc. (Paris, 1894), gives figures quite different from those cited in the text. According to this writer (p. 2), "The application of the Bland and Sherman Laws, that is to say 15 years and 8 months of protection in favor of American silver mines, has resulted in the American Treasury buying 503,003,717 ounces of silver for a total price of 516,622,918 dollars." Neither the quantity nor the sum agrees with the "Report of 1893." The former director of the mint, Mr. Leech, in his report for 1892, p. 27, gives figures agreeing with those of his successor, and which differ considerably from those of Mr. Thevy. It is plain in such matters that the best authorities are the directors of the United States' Mints.

18 Report 1883, pp. 17 and 18.

19 Report 1892, p. 16.

20 Id., p. 57.

21 Report 1893, p. 26.

22 We shall see farther on if this inconvenience can be avoided in a double standard system practised in virtue of a common agreement by all countries, or at least by the greatest number of civilized nations.

23 The author says Baron, but Dictionary of Nat. Biography speaks only of knighthood.

24 We borrow this passage from M. Gide: "Treatise on Political Economy," p. 250, note, Roscher knew the passage but cites it without giving the text. Op. cit., p. 205. See Frogs l: 705.

25 Macaulay, in History of England, cited by Lauglin, op. cit., p. 314. Lauglin in the same passage gives a recent application of the same law borrowed from Jevons. "At the time of the treaty of 1858, between Great Britain United States and Japan, which opened Japan to European trade, a very curious system of currency existed there. The most esteemed coin was the kobang, — a small oval disc of gold about

2 inches long and 1¼ inches wide, weighing 200 grains and adorned in an extremely primitive fashion. It circulated in Japanese towns at par with four "Itzebus" of silver, but it was worth 18 shillings 5 pence ($4.60) in English money, while the silver "Itzebus" was only equal to about 1 shilling 4 pence (33 cents), 4 Itzebus being worth in English money 5 shillings 4 pence ($1.32). The first European traders had in this way a rare opportunity of making money. By buying "kobangs" at the native rating, they tripled their money, until the natives themselves, seeing what had happened, withdrew the rest of their gold from circulation." This example shows how generally, among primitive people, gold is undervalued, and it is probable that gold, thus undervalued was scarce, in Japan, even when it formed a limited and close market. Business being inconsiderable, and the price of things low, silver was adequate for this purpose

26 This formula comes from M. Gide who goes on to say, "What gives this fact and the law expressing it a character of peculiar strangeness is, that for every other object it would be incomprehensible. We cannot understand why men should have the bad taste to prefer in general a bad article to a good one," etc. Op. cit., p. 250.

27 Roscher, op. cit., p. 205.

28 See above pp. 7–10.

29 Report 1893, p. 162. This table is prepared,— the director of the mint tells us — for the years 1687–1832 according to the tables of Dr. Soetbeer; for the years from 1833–1878, after the tables of Pixley and Abel, and for later years, according to cablegrams sent each day from London to the United States' Mint.

30 The figure given for March, 1894, is not to be found in the American Document and is approximate. From this silver is proved to be losing at present 55 per cent. of the monetary value assigned to it by the Latin Union. The loss is still greater in the last half of 1874.

31 These figures, let us notice, are borrowed from information on the ratio of gold and silver production by Soetbeer. Op. cit., p. 7. It is unfortunate that for the XVIIth and XVIIIth centuries he only gives quantities for periods of twenty years. We could have seen more easily without question the phenomenon of the adaptation of the respective value of gold and silver to their quantitative production, if the information had been given for decennial periods.

32 For these points of history consult Roscher in his two works — Principles of Political Economy, 17th ed., pp. 286–294, and Political Economy of Trade and Industry, 2d ed., p. 204–220. In the latter work the great German scholar remarks, that since the middle of the XVIIth century, in a great part of Europe, bills of exchange were paid in gold only, but if we go further back to the XIVth century, payments of some importance were made in gold in the cities of Germany, which at that time were in a very flourishing condition. He states too that Bremen had the gold standard from 1745 to 1750, and that the movement for the gold standard in Germany began in 1856 and had as its center the first commercial town, Hamburg: op. cit., p. 217.

33 For the employment of both metals in industry of author's Treatise, pp. 161–165, and for the demand for gold and the preference given it in all countries that are growing rich. Pp. 167–168.

34 This table is taken from the "Treatise on Banking Operations," by Courcelle Seneuil. 6th ed., p. 76.

35 Roscher. Op. cit., p. 216.

36 We speak of this limit in the case a country is absolutely free to fix its monetary system and does not find itself hindered by bad precedents. In France, for example, we are loaded with an enormous quantity of 5 franc pieces, due to the fact that silver was practically our quasi-exclusive money until about 1850 (cf. p. 7). The Bank of France holds 1,267 millions of silver ($253,400,000), at the present time (February 22, 1893), and there must be slightly more in circulation in the country. That is about 3 milliards ($600,000,000), or deducting Italian, Belgian coin, etc., in case these countries could be got to take them back, considerably more than 2 milliards ($400,000,000) of silver. It is clear that in this situation, if we did not want to demonetize silver — a process that would bring an enormous loss on the Treasury — to about half a milliard ($100,000,000), if not 1 milliard ($200,000,000), and if reduced it to subsidiary or token money — a desirable step — we must resign ourselves to have a more considerable quantity per head than that given in the text. We should have to keep for example, fifty francs ($10), if not a trifle more per head. This might produce some inconvenience, but they would simply be the results of bad precedents.

37 We remind our readers that, in the different editions of our Treatise on Science of Finance, we have, for a good many years, and long before the present crisis in exchange had become intensified, warned the public and governments against the abuse of foreign public loans. In the second edition (1879) in the summary of chapter 15 of Book 4, Vol. II, we wrote this proposition, "Another cause far less justifiable for the establishment and maintenance of an inconvertible paper money, is the abuse of external loans contracted by new countries," and we developed in the text the same proposition which the experience of the last fifteen years has proved correct. See op. cit., vol. II, pp. 658 and 699. In the latter editions we dwelt with still more force on this principal cause of trouble which so many people attribute especially to the suppression of silver coinage in the great civilized countries.

38 We can estimate the proportion of French silver money that has disappeared during the great Golden Age from 1850 to 1870. According to M. de Foville now director of the mint (France Economique, year 1889, p. 366), there were coined in France from 1795 to 1888 (really till 1876) 5,313 millions of silver pieces ($1,062,600,800), deducting demonetized coin; now this authority estimated in 1888 the stock of French silver at 3 milliards ($600,000,000), and of this sum about 800 millions ($160,000,000) is composed of foreign coin (p. 33,), so about 3 milliards ($600,000,000) of silver disappeared in France during the great Golden Age.

39 William Jacob: an historical inquiry into the production and consumption of the precious metals (vol. II, pp. 87–115). The University of Cambridge has printed lately (1893 Cambridge, University Press) the very curious work "A Discourse of the Commonweal of this Realm of England;" the title is not exactly the same as what Jacob cites; but it is the same work which first appeared in 1581 and was reprinted in 1751, 1808, 1813, 1876 and finally in 1893; these reimpressions we see, coincide with periods when the monetary problem was the object of special public attention; this was the case in 1808 and 1813, when England had a depreciated

paper money, and again in 1870 and 1873 when the monetary question was the object of so much controversy.

40 See note 32.

41 Documents relating to the monetary question collected and published in parts, by M. J. Malon, minister of finance (Belgium), Brussells, 1894, 4th part, p. 27.

42 Id., pp. 26 to 28.

43 The monetary transformation of Germany, since it took place when silver had lost but little of its value only cost that country a very limited sum compared to the enormous advantage it gave; from 1873 to the end of 1884 it caused a loss on the books of 44,071,100 marks ($11,017,725). "Of a real loss in the fortune of the Empire," says Soetbeer, "due to sales of silver from 1873 to 1879 there can be no question, for the gold exchanged for it has now a far greater value than the silver that was surrendered, since the latter was sold at 54 pence (108 cents)—the Latin Union monetary par being at 60.8 pence—(121 6 cents), while in July, 1885, the price of silver is only 49¾ pence (99 cents) an ounce. "Materials to explain and determine the relations of precious metals, Berlin, 1885." We know that in December, 1894, the price of an ounce of silver is no more than 27½ pence (55 cents). Germany then brought about its great monetary reform of 1873-79, with the small sacrifice of $11,000,000. If at the present time, France wanted to reduce her silver circulation to the level of that of Germany; 3 milliards of francs ($600,000,000) according to De Foville's estimation (see note 38), to about 1,100,000,000 francs (Soetbeer, op. cit., p. 78 , estimates German silver in 1884 at 892 million marks $223,000,000); it would cost France more than 1 milliard ($200,000,000), and even deducting foreign coin, 7 to 800 million francs ($140,000,000 to $160,000,000).

44 Sidney Sherwood. Op. cit., p. 44.

45 See above the table giving the purchases year by year, pp. 12 and 13, and refer also Report of Director of the Mint, 1893, pp. 17 and 18.

46 Id., Ibid., p. 22.

47 Id., Ibid., p. 39–42.

48 Id., Ibid., pp. 39 and 40.

49 The British statistics end with September 30, 1893; for the complete year we have increased the figure for nine months by a third; possibly exports for three last months of 1893 were a trifle smaller on account of the closing of the mints after June 26, 1893; but the effect of this measure had made itself felt in the quarter July to September; besides what we want here is probable valuation of the amount annually absorbed by the Far East before the closing of the mints. After inspecting the quinquennial period 1889–1893, we have a right to assume that the movement of the precious metals in the Far East during the last three months of 1893 was approximately the same as during the first nine; the error, if there be one, for these three months can be neglected in the average for the whole five years.

50 Op. cit. in note 16, pp. 56, 57, 192, 193. The figures here given for the countries of Europe seem to exceed what simple re-coinage might indicate. So the director of the mint gives some figures relating to re-coinage; they were $1,129,000 and $1,144,000 for Great Britain in 1889 and 1892, $928,000 for the Austria-Hungary in 1890, and $1,497,000 for Spain in 1890; Now these amounts are much less in general than those given in the text for the coinage of these countries during the same years.

51 Op cit. note 16, p. 53.

CHAPTER II.

1 Coffee is an article whose price has risen considerably; in 1849–1850 it cost for ordinary qualities 44 to 54 shillings ($11–$13.50), an English hundredweight; in 1877, from 86 to 94 ($22.50–$23.50) in 1885, 40 to 52 ($10–$13); in 1887, 60 to 70 ($15–$17.50); in 1889, 79 to 90 ($19.75–$21.50); in 1892, 78 to 95 ($19.50–$23.75); in 1893, 80 to 95 ($20–$23.75); See Commercial History and Review of 1893, page 33, supplement to the Economist.

2 See author's "Essay on the Distribution of Wealth," pp. 182 to 229.

3 Statistical abstract for the principal European and other foreign countries, 1883, p. 297.

4 Id., p. 298.

5 Id., pp. 283 to 288.

6 Id., p. 307.

7 Id., p. 216.

8 Id. for 1892, pp. 84–85.

9 Some up to the present are exceptions as eggs, milk, poultry, fresh vegetables, coffee. At least their production, while increasing and progressing, is not carried on in as extensive proportions as the common products. Or the increase of what are still scarce and inconsiderably used products has corresponded to a demand which with increasing comfort, has grown more rapidly than the demand for ordinary products. Certain of these choice products are more difficult to keep and consequently not so easily transported from distant countries. Finally, some are more difficult to produce in new countries where cultivation is necessarily more rapid. Perhaps with time the improvement of agricultural production may be applied also to these articles causing them to fall in price.

10 There is no reason to suppose that the rise in coffee is due to the civil war in Brazil, the principal producing country. This war seems only to disturb the surface of the country. Moreover, coffee quoted at London January 1, 1894, at 80 to 95 shillings ($20–$27.75) the hundredweight, is no dearer than it was in 1890 when it stood at 87 to 90 ($21.75–$22.50), and not much dearer than in January 1, 1888, when it was worth 78 to 85 ($19.50–21.25), while the Empire of Brazil was still standing, and when the emancipation of slaves was not yet completed. See op. cit., note 1, p. 33.

11 These figures, as well as the preceding ones, are taken from the numerous tables published by the Economist in its Commercial History and Review of 1893, pp. 33–35.

12 Labor Bureau: Wages and duration of work in French industry, vol. I, department of the Seine, National Printing Office, 1893. By comparing this document

with previous ones, it is possible to show that from 1875–76, wages at Paris have increased considerably in an industry for which correct figures can be given, and which besides is a most important one; namely, house-building. The following table gives comparative wages and increase per cent. for each trade:

TRADES.	WAGES IN 1875-6.	WAGES IN 1891.	INCREASE, PER CT.
Excavators, Ordinary	8 cts. an hour	11 cts. an hour	40
Foreman Well-diggers	17 "	18 "	5
Ordinary "	13 4-5 "	15 "	8 1-2
Assistant "	8 2-3 "	11 "	25
Rough Stone-cutter	15 "	20 "	
Ordinary "	11 "	15 "	
Setters	12 5-10 "	15 "	20
Hod carriers	10 "	13 "	
Cementers	9 "	12 "	to
Lifters	8 5-10 "	15 "	
Carriers of Cut Stone	8 "	10 "	40
Masons	11 "	15 "	
Rough-wallers	7 "	10 "	
Brickmakers	11 "	15-16 "	40
" Apprentice	7 "	10 "	40
Carpenters	12 "	16 "	30
2d Sawyers	24 "	29 3-5 "	30
Tilers	1.25 a day	1.50 a day	17
" Apprentice	85 "	1.00 "	to
Lead or Zinc Workers	1.20 "	1.40 "	25
" " Apprentice	80 "	1.00 "	
Joiners	1.00 "	1.40 "	40
Floor-layers	1.20 "	1.70 "	40
Blacksmiths	1.40 "	1.70 "	20
Blowers	90 "	1.10 "	20
2d Blacksmiths	1.20 "	1.40 "	18
2d Blowers	80 "	1.00 "	22
Fitters	1.05 "	1.45 "	30
Iron-workers	1.10 "	1.45 "	35
Drillers	90 "	1.05 "	17
Journeymen	80 "	1.05 "	25
Burners	1.20 "	1.45 "	20
Chimney-builders	12 cts. an hour	15 cts. an hour	25
Marble-cutters	12 "	15 "	25
Painters	12 "	15 "	25

An analogous rise took place in all trades relating to building, and these comprise in Paris a very large fraction of the working population. See List of Prices of the City of Paris, 1875–16, and the above-mentioned publication of the above Bureau, pp. 602–608; also refer to an article published by us in the "French Economist," December 23, 1882. We call attention to the fact, that for the year 1891, we have not reproduced here the wages of the List of Prices of the City of Paris, which are often at higher figures than our own; these are taken from the wages allowed and paid by the Society of Architects, in other words ordinary wages. We have compared, then, the ordinary wages of 1891 with the highest figures in 1875–76.

3 It must be noticed that those who maintain that the changes in prices during late years are due to the demonetisation or suspension of silver coinage always take as a point of comparison the year 1873, when the prices of the majority of goods were exorbitantly and abnormally high as a result of the necessity of supplying the stock exhausted by the Franco-Prussian war of 1870–71.

4 Op. cit., p. 19.

5 Op. cit., p. 18.

6 Theory of Foreign Exchange, by G. J. Goshen, Chancellor of the Exchequer.

7 Statistical Abstract, 1877–1891, p. 52.

8 It is to be noted that the opponents of the demonetisation or subordination of silver in European countries sometimes represent India as ruined by the fall of silver, sometimes as extraordinarily enriched by it according as they consider either the Indian government, which indeed experience difficulty in its remittances to Europe, or the whole number of Indian products of which exports are facilitated and stimulated by the same fall. While admitting the correctness at least for a certain period of transition for this difficulty of the Indian government and also of the stimulus to Indian production, the bimetallists (giving them the name they call themselves) do not observe that these two facts tend to balance one another, since the monetary stimulus of commerce, agriculture and industry allows taxes to be raised without the country feeling it and it gives more productivity to existing taxes.

19 The guarantee duty on silver articles, that is on its annual production in a manufactured state, was laid in France, in 1889 on 24,500 kilos, in 1890 on 82,500, in 1891 on 85,000, in 1892 on 86,600 or about 85,000 kilos a year (Statistical Bulletin, April, 1893, p. 369). Allowing the employment of old silver articles to equal 15,000 of this sum there remain 75,000 kilos for new silver articles; we can consider that the other civilized countries of Europe and America, having a population ten times greater than France, represent also a tenfold consumption of silver for these purposes. This would be an industrial employment of 700,000,000 kilos of silver for civilized nations; the decline in price, whenever it reaches the consumer and the exemption from the stamping duty or other duties, or considerable reduction of them can increase the consumption by 40 per cent. and carry it to 1 million kilos. It is not improbable that the primitive countries of the East can altogether absorb in the same way an equal if not greater quantity. Finally, an important quantity of silver can be employed in the countries of the East and in other primitive countries in monetary use. The present production, for several years from 4½ to 5 million kilos, will not need then to be enormously reduced.

20 We use the word bimetallism in the ordinary sense — which indeed is not scientific, — that is as implying that the three conditions of a universal double standard are present, viz: both metals enjoy an unlimited privilege as monetary medium. A fixed and unchangeable ratio between them. Finally, free and gratuitous coinage of both metals at the mints on the account of private persons, according to a monetary rate rate of value once for all established.

21 Extracts from the Report of Counsellor Schmeisser, South Africaan Review, March 18, 1894, p. 2. In giving the production of Wittwatersrand a value of 250 to 300 millions ($50,000,000 to $60,000,000) annually, we took a moderate estimate.

Transvaal enthusiasts believe it will reach 500 millions ($100,000,000) a year. It must be allowed that, apart from the central region, studied by Schmeisser, the eastern region is declared to be very rich. On the other hand it is supposed that much gold will be found in other parts of the Transvaal and in Mashona and Matabeleland. There is some to be found also in Madagascar, We only mention the very rich new mines in western Australia; but how long they may last is uncertain. Finally, it is thought that the Transiberian railway will allow the mining of abundant veins of alluvial ore. From the year 1888 we have followed very closely these gold discoveries, which have both a practical and theoretical interest.

22 The Future of Silver, by Edward Suess, professor of geology at the University of Vienna, etc., Washington, 1893, p. 26.

23 According to the report for January, 1894, of the Mining Exchange of Johannesburg (cf. op. cit., note 21, pp. 3 and 4), the gold average of the ore crushed during that month was only 9.15 pennyweights a ton. It is true that in this case we only have to do with ore directly obtained by amalgamation, and that there must be joined to it what is got by concentrates and by the treatment of tailings. Reckoning in these additions we reach an average of almost 14 pennyweights a ton or a value of 67 to 68 francs ($13.40 to $13.60). We have followed very attentively the gold production of the Transvaal mines from the beginning, and we have studied the monthly and annual reports of most of the companies. It is evident that the net profit, for almost all, even the most celebrated, with three or four exceptions, is small relatively to the gold produced, as we have stated in the text. It hardly represents 25 francs ($5) a ton of ore, on the average 35 per cent. of the gold produced.

24 We are not claiming by the remarks in the text, that a universal gold standard is to be expected either immediately or in the future; but its attainment is not impossible. A great quantity of gold would not be necessary, although when the entire world is completely known and opened up, all Africa and Asia, especially northern and central, all South America ought to produce a large quantity of gold. Besides, in certain countries, as India and China, gold could be used as an international money for large transactions with other countries, serving thus as a reckoning basis for all foreign business, and silver could be kept for internal circulation and for small payments. This scheme involves nothing impossible. In any case, if it were desired to establish a gold standard in countries like India, a considerable sum of silver money would have to be retained for use within the country. In France, at the present time, we have about 100 francs ($20) of silver per capita, and yet for all large payments we are under a gold standard. Nothing would prevent the same condition from existing in the Far-East.

END OF
TITLE